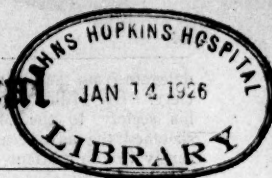


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# THE BOSTON Medical and Surgical JOURNAL



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## The Massachusetts Medical Society

### PROCEEDINGS OF THE SOCIETY

*First Day, June 9, 1925*

ALL of the exercises of the one hundred and forty-fourth anniversary were held in the hall of the building of the John Hancock Mutual Life Insurance Company at 197 Clarendon Street, Boston, except the Cotting Lunch and the Annual Dinner, which were served in the Copley-Plaza Hotel, near at hand. For the first time a plan devised by the standing Committee on Publications and Scientific Papers, a two day meeting of the Society itself with limited programs by the Sections, was put into effect. The Society provided, through its committee on publications, five papers of general interest while the Sections furnished the rest of the scientific program. The complete program was sent to every Fellow a month in advance of the meeting and also published in the official organ shortly before the meeting. The exercises began with a meeting of the Section of Pediatrics Tuesday at 10 o'clock a. m. The Supervising Censors held their annual meeting at 11.30 a. m., fourteen "Districts" of the state being represented. A committee was appointed to prepare examination papers for candidates for fellowship, the object being to have the examinations in the different Districts as nearly alike as possible. The character of the questions was discussed, the opinion prevailing that they should be as practical as might be. At 11.45 the Council met, one hundred and twenty-nine councilors signing the attendance books. (See Proceedings of the Council.) The Cotting Lunch was served immediately after the meeting in the State Dining Room of the Copley-Plaza Hotel. At two o'clock the Section of Tuberculosis held its meeting, and from three to five o'clock three general papers were read under the chairmanship of the President of the Society. Dr. Hans Zinsser gave the Shattuck Lecture at eight o'clock in the evening, with the subject: "The Study of Immunity in its Relations to the Problems of Practical Medicine" before a large and appreciative audience. The lecture was followed by a short program of moving pictures.

*Second Day, June 10, 1925*

On Wednesday morning at 9.15 o'clock the Section of Surgery held its meeting, with the

officers of the section in charge, and was followed by the Section of Medicine at 10.30 a. m. The annual meeting of the Society was called to order by the President at 11.50 o'clock. The record of the last meeting was read by the Secretary and accepted. He made the following report on the membership during the year: Total membership, June 7, 1924, 4139. Deaths during the year, 62; resignations, 22; deprivations, 31; total loss, 115. Restored by Council, 1; re-admitted by Censors, 1; new Fellows, 168. Total gain, 170, making the total membership, June 10, 1925, 4194, agreeing with a count of the active and retired members of the Society in the revised alphabetical list in the Secretary's copy of the Annual Directory of January 1, 1925. The following amendment to Section 8, Chapter I, of the By-Laws, as approved by the Council, June 6, 1924, was presented to the meeting. On motion, duly seconded, it was *Voted*, To rescind Section 8, Chapter I, of the By-Laws and to adopt the following section in its place:

Section 8. (a) Resident fellows who have neglected payment of three annual assessments, and who continue to neglect payment after notification by the treasurer, may be deprived of the privileges of fellowship by the council acting on a report of the committee on membership and finance. (b) Non-resident fellows who have neglected payment of one annual assessment, after removal from the state, may be deprived of the privileges of fellowship in the same manner. (c) Fellows who have been convicted in a court of law of a crime or misdemeanor involving moral turpitude may be deprived of the privileges of fellowship by the council acting on separate reports of the committee on ethics and discipline and the committee on membership and finance, presented by the latter committee. A fellow so deprived shall have the privilege of a hearing by the joint committee if he desires. Fellows who have been deprived of the privileges of fellowship, on making application in writing to the council to be restored to said privileges, shall receive the consideration of the council. Such petitions should be addressed to the council and sent to the secretary of the general society.

The President called for any resolutions there might be. None were presented. He introduced Dr. James R. Miller of Hartford, Connecticut,

delegate from the Connecticut State Medical Society. Dr. Miller brought the greetings from his society to the Massachusetts society; he sketched the advances that had been made recently in Connecticut in their medical practice act; he thought that the public had been aroused to protect itself; the society plans to have a postgraduate assembly to emphasize the progress of medicine, in clinical meetings of the profession of the state. The Secretary read a telegram from Dr. Charles F. Gormly, of Providence, Rhode Island, regretting that unforeseen circumstances had prevented him from attending and sending the greetings of the Rhode Island Medical Society, also a letter from Dr. Thomas J. Burrage, of Portland, Maine, expressing his regret that he was unable to be present but sending the good wishes, nevertheless, of the Maine Medical Association.

Dr. Homer Gage said he had been unable to be present at the meeting of the Council, the day before, and wished to report informally as chairman, for the Committee of Nine, in charge of the *Boston Medical and Surgical Journal*, the official organ of the Society. He said that the Society had needed a room with a secretary as a headquarters for some of the officers and committees of the Society and has established such a room adjoining the office of the *Journal*; that the managers of the *Journal* hope to make it a New England journal, as it had been, in name, previous to the year 1828; recently it has become the official organ of the New Hampshire Surgical Club and the management hope that the New Hampshire Medical Society will soon ask it to become its official mouthpiece as well as the Connecticut state society. Dr. Gage spoke of the unselfish and efficient labors of Dr. W. P. Bowers, the managing editor; he has transformed the periodical during the four years he has been in control; it has grown in popularity every year and has met every requirement; the chairman thought that the *Journal* would not exceed its appropriation in the Budget for the current year.

On motion by Dr. O'Hara the thanks of the Society were voted to the President and officers of the John Hancock Mutual Life Insurance Company for their generous hospitality and courtesy to the Society in providing such a satisfactory meeting place for the anniversary.

After a brief recess Dr. David Cheever of Boston delivered the Annual Discourse, with the subject: "The Physician as Custodian of the Health of the People, But Who Shall Guard the Custodian Himself?" There was an audience of about 300. Wednesday afternoon the Section of Obstetrics and Gynecology held its meeting at 2.15 o'clock and from 3.30 to 5 p. m. there were two papers of general interest, with the President of the Society in the chair. The Annual Dinner was served to 485 Fellows and their guests at 6.30 p.m. in the Ballroom of the Copley-

Plaza Hotel. The President introduced the following speakers: The Right Reverend Charles E. Slattery, Bishop of Massachusetts, The Honorable Alvan T. Fuller, Governor of Massachusetts, Mr. Sherman L. Whipple, eminent lawyer, Dr. James J. Walsh, Professor of Physiological Psychology at Cathedral College and College of the Sacred Heart, New York, N. Y., and the president elect, Dr. James S. Stone of Boston, who was to take office on adjournment.

The total attendance as registered was 608 during the two days.

The Sections elected the following officers for 1926:

SECTION OF MEDICINE: *Chairman*, W. H. Robey, Boston. *Secretary*, Maurice Fremont-Smith, Boston.

SECTION OF SURGERY: *Chairman*, J. M. Birnie, Springfield. *Secretary*, H. P. Stevens, Cambridge.

SECTION OF TUBERCULOSIS: *Chairman*, A. S. MacKnight, Attleborough. *Secretary*, Randall Clifford, Boston.

SECTION OF PEDIATRICS: *Chairman*, R. M. Smith, Boston. *Secretary*, J. Herbert Young, Newton.

SECTION OF OBSTETRICS AND GYNECOLOGY: *Chairman*, C. E. Mongan, Somerville. *Secretary*, F. C. Irving, Boston.

Adjourned.

WALTER L. BURRAGE, *Secretary*.

#### ADMISSIONS REPORTED FROM JUNE 7, 1924, TO JUNE 10, 1925

Year of Admission	Name	Residence	Medical College
1925	Abbott, John Woodward,	Worcester	11
1925	Adam, John Gelkie,	Great Barrington	7
1925	Armstrong, Irving Foster,	Hudson	12
1925	Barnes, Henry,	New Bedford	17
1924	Barney, Azel Packard,	Springfield	19
1925	Barton, Frank Eugene, Jr.,	Boston	10
1925	Batchelder, Philip,	Boston	11
1925	Baxter, George Raymond,	Newton Centre	12
1925	Berenson, Wyman,	Mattapan	12
1925	Bixby, Henry Irving,	North Attleboro	11
1924	Bloom, Abraham,	Malden	10
1925	Boudreau, William Joseph,	Fall River	20
1925	Brewster, Albert Howell,	Brookline	6
1924	Brown, Frederick Ronald,	Winchester	11
1925	Burisch, John Livingston,	Worcester	11
1925	Bussey, Floyd Hamilton,	New Bedford	3
1925	Byrnes, Leo Augustine,	Holyoke	12
1924	Caldicott, Francis Stephen,	Lowell	12
1924	Camp, John Dexter,	West Roxbury	10
1925	Caner, George Colket,	Boston	11
1924	Caplan, Louis,	Boston	10
1925	Casey, Daniel Francis, Jr.,	Webster	12
1925	Cavanaugh, Mortimer Thomas,	Great Barrington	25
1924	Chute, James Lemuel,	Osterville	12
1924	Clancy, Leo Joseph,	Holliston	20
1925	Connor, Thomas John,	Arlington	10
1924	Conroy, Augustine Edward,	Lowell	12
1924	Consentino, Albert Benedict,	Lawrence	12
1925	Cook, Edward Moody,	Worcester	11
1925	Cheetham, Donald Butterworth,	Worcester	17
1925	Colby, Fletcher Hatch,	Boston	11
1925	Consales, Peter Augustine,	Boston	12
1925	Curley, George Frederick,	Milford	20
1924	Davidoff, Reuben Benjamin,	Brookline	17



1924	Drake, Arthur Knowlton, Tewksbury	11	1925	Murphy, James Moore, Palmer	12
1925	Duggan, Daniel Joseph, Wakefield	11	1924	Nerbonne, Joseph John, New Bedford	12
1925	Dukakis, Pans Stellanou, Boston	11	1925	Newton, Francis Chandler, Brookline	11
1924	Dunphy, Edwin Blakeslee, Cambridge	11	1925	Newton, Harlan Fay, Boston	11
1925	Durgin, Edward Chase, Marshfield Hills	12	1925	Osterheld, Roger Golden, Westborough	10
1924	Eagan, Owen Louis, Fall River	12	1925	Pickwick, Erskine Richards, Newton Lower Falls	12
1925	Edelstein, Alfred, Quincy	12	1925	Pierce, Lydia Baker, Westborough	10
1925	Ehrenloof, Aifred Hjalmar, Boston	4	1925	Piper, Frank James, New Bedford	12
1925	Elliott, John Lawson, Salem	8	1924	Reynolds, Edwin Drew, Danvers	11
1925	Ely, Julian Griffin, New Bedford	11	1925	Reynolds, George Stoddard, Pittsfield	17
1924	Everett, Winchester Winslow, Newton Upper Falls	11	1924	Richards, Lyman Gilder, Roxbury	11
1925	Felton, Lester Mahan, Worcester	23	1925	Roberson, Tracy Lloyd, Ware	12
1925	Ferguson, Eleanor Bagshaw, Boston	10	1924	Robbins, George, South Boston	12
1924	Fisher, Virgil Luther, Stoneham	9	1925	Robinson, Fred Hilliard, New Bedford	12
1925	Flynn, George Clifford, Indian Orchard	12	1924	Rubin, Gabriel Jacob, Winthrop	11
1925	Forrer, Lucie Gabrielle, Palmer	26	1925	Rudolph, Israel, Fall River	12
1925	Fuller, David Herman, Fall River	20	1925	Rudy, Abraham, Dorchester	29
1924	Gagnon, Alphonse Paul, Fall River	12	1924	Russman, Charles, Lawrence	12
1925	Gallagher, John Vincent, Milford	12	1924	Ryan, James Bernard, Easthampton	12
1924	Gately, George Lynde, East Boston	12	1924	Scheller, Louis, Brockton	31
1924	Gaudreau, Honoré Edward, Indian Orchard	12	1924	Schwartz, Maurice R., Fall River	20
1925	Gear, Patrick Edward, Holyoke	11	1925	Sewall, Clarence Wesley, West Roxbury	10
1925	Gile, Harold Hatch, Boston	17	1924	Shea, Francis Xavier, Roxbury	11
1925	Givan, James Alexander, Worcester	12	1925	Shea, Thomas Edward, Holyoke	17
1924	Glaser, William, South Boston	12	1924	Sherwood, Walter, Wellesley	11
1924	Goldman, Joseph, Boston	11	1924	Shohet, Gabriel Harry, Dorchester	12
1925	Goldsmith, Thomas Bartholomew, Pittsfield	12	1924	Silbert, Harry, Salem	12
1925	Green, Dorothy Lincoln, Worcester	12	1925	Simons, Sidney Morton, Worcester	12
1925	Gross, Joseph Edward, Fall River	22	1925	Small, Abraham Solomon, Winthrop	12
1924	Hadfield, Jonathan Pyott, Fall River	24	1924	Spaulding, Harold Archibald, Dorchester	12
1924	Hales, Jesse Collins, Gardner	12	1924	Sprague, Howard Burnham, Brookline	11
1924	Hopkins, John Edward, Boston	11	1924	Springer, Ernest, Boston	12
1924	Horan, Thomas Benedict, New Bedford	12	1925	Stein, Albert, Springfield	25
1925	Hubbard, Roger Everett, Northfield	12	1925	Stratton, Charles William, Lee	1
1924	Hutchinson, Claribel Merrill, Boston	14	1924	Stusick, Stanley Steven, Springfield	12
1924	Hutchison, Kenneth Thomas, Boston	10	1924	Tait, Harold Sinclair, Dighton	32
1924	Inman, William Charles, Salem	12	1924	Taylor, Grantley Walder, Brookline	11
1925	Jenkin, John Theodore, Worcester	11	1925	Tetraut, Charles Arthur, Southbridge	13
1925	Johnson, Linwood Hill, Palmer	5	1925	Thompson, Clara Louise, Roslindale	2
1925	Jorress, Mark Harry, Rutland	12	1925	Thompson, Edward Charles, Roslindale	34
1925	Kagan, Jonas Robert, Dorchester	16	1924	Titus, Harold Afton, Lowell	12
1925	Keane, John Francis, Milford	20	1924	Trickey, Charles Lemuel, Tewksbury	18
1925	Keay, Harry Chester, Sterling	18	1925	Ussher, Clarence Douglas, Worcester	35
1925	Kelleher, William Lawrence, Worcester	12	1925	Vance, James Elmon, Natick	10
1925	Kellogg, Emery Campbell, Swansea	2	1925	Waite, John Herbert, Brookline	11
1925	Kelly, Harvey Augustine, Winthrop	15	1924	Walker, William Gordon, Brockton	36
1924	Kickham, Edward Leonard, Brookline	12	1925	Webster, John B, New Bedford	25
1925	Kimberly, Arthur Myndert, Worcester	23	1924	Whitaker, Harper Elliott, Gloucester	33
1924	Klein, George, Norwood	12	1925	White, Priscilla, Boston	12
1925	Krieger, William Lawrence, Boston	10	1924	Whitney, Raymond Cyrus, South Dartmouth	11
1924	LaFond, Dolor Joseph Arthur, Gardner	21	1924	Wiese, Walter John, Springfield	11
1925	Lafraniere, Edward Arthur, Fall River	12	1925	Willis, John Embert, Worcester	10
1924	Laub-Gross, Victor Fred Herbert, Boston	10	1925	Woody, Melver, Springfield. Restored by Censors	11
1924	Ledoux, Arthur Joseph, Fall River	10	1925	Yerbury, Edgar Crawford, Westborough	10
1924	Lee, Harold Gordon, Brookline	13	1924	Young, Leo Alvah, Fitchburg	12
1924	LeFargy, William Godfrey, Newton	10	1924	Youdin, Hyman, Salem	12
1924	Livingston, Myron, Haverhill	10	1924	Zielinski, Ignatius, Salem	12
1924	Looney, Edward Michael, Salem	15			
1924	Loring, Robert Edward Lee, Springfield	11			
1924	Lourie, Osp Raphael, Boston	27			
1925	Ludden, Emerson Augustus, North Brookfield	1			
1924	Macchia, Bartholomew Frank, Boston	12			
1925	Macdonald, Maxwell Eugene, Brookline	11			
1924	MacGregor, George Gleason, Boston	10			
1925	Mahoney, John Francis, New Bedford	12			
1925	Marx, Frederick William, Holyoke	11			
1924	Masters, Jacob Meyer, Chelsea	10			
1924	Matzkin, Jacob Herman, Roxbury	12			
1924	McDonald, William, Marion	17			
1924	McNamara, John Joseph, Lowell	12			
1925	Means, Paul Howard, Cambridge	11			
1924	Miller, John George, Jr., Lawrence	12			
1924	Mills, Ashley Ernest, Lawrence	12			
1924	Mitchell, Harold Hubbard, Fall River	28			
1924	Mollica, Zachary Amerigo, Dorchester	30			
1925	Montgomery, David Henry, Quincy	12			
1925	Morrison, Sidney Leon, Brighton	22			
1925	Moulton, Lillian Gertrude, Danvers	12			

168 new members and one restored by Censors.  
Total, 169.

# KEY TO MEDICAL COLLEGES

- 1 Albany Medical College.
- 2 College of Physicians and Surgeons, Boston.  
(Action of Committee on Medical Education and Medical Diplomas.)
- 3 University of Michigan Homeopathic Medical School.
- 4 Leland Stanford University Medical School.
- 5 Bowdoin Medical School.
- 6 Johns Hopkins University Medical Department.
- 7 Trinity Medical College, Toronto, Canada.
- 8 Emory University Medical College.
- 9 American Medical Missionary College.
- 10 Boston University School of Medicine.
- 11 Harvard University Medical School.
- 12 Tufts College Medical School.

- 13 Yale University School of Medicine.  
14 Woman's Medical College of the New York Infirmary for Women and Children.  
15 Baltimore Medical College.  
16 University of Geneva Medical School.  
17 Columbia University College of Physicians and Surgeons.  
18 Dartmouth Medical School.  
19 University of Pennsylvania School of Medicine.  
20 Jefferson Medical College of Philadelphia.  
21 University of Tennessee College of Medicine.  
22 University of Vermont College of Medicine.  
23 Cornell University Medical College.  
24 McGill University Faculty of Medicine.  
the College of Physicians and Surgeons.
- 25 University of Maryland School of Medicine and  
26 Indiana University School of Medicine.  
27 Imperial University, St. Vladimir, Kiev, Russia.  
28 Syracuse University College of Medicine.  
29 University of Berlin, Germany, Medical School.  
30 Medical College of the State of South Carolina.  
31 University of Illinois College of Medicine.  
32 Dalhousie University Faculty of Medicine.  
33 Hahnemann Medical College and Hospital of Philadelphia.  
34 Fellow of the Royal College of Surgeons, London, England.  
35 University of Kansas School of Medicine.  
36 State University of Iowa College of Medicine.

## DEATHS REPORTED FROM JUNE 7, 1924, TO JUNE 9, 1925

Admitted	Name	Place of Death	Date of Death	Age
1909	Adamian, Parang Adam	Worcester	Feb. 3, 1925	56
1882	†Averill, Jesse Howes	Campello	Apr. 24, 1925	71
1891	Bancroft, George Andrew	Natick	May 14, 1925	59
1906	Barstow, Andrew Thaddeus	Templeton	Nov. 29, 1924	51
1902	Bartlett, Philip Challis	Newton Highlands	July 25, 1924	49
1901	Bertrand, Alexis Evariste	Lowell	July 24, 1924	46
1894	Birge, Ella Freeman	Provincetown	July 6, 1923	66
1883	†Birge, William Spafard	Provincetown	Mar. 26, 1925	68
1877	†Booth, Edward Chauncey	Winter Park, Fla.	Jan. 18, 1925	75
1915	Brassil, Timothy Francis	Cambridge	Mar. 21, 1925	50
1884	Broidrick, James	Jamaica Plain	Feb. 26, 1925	76
1902	Canedy, Charles Francis	Greenfield	May 5, 1925	48
1886	Cheney, Frederick Edward	Boston	July 2, 1924	62
1902	Dadmun, Eliza Josephine	Boston	Feb. 11, 1925	58
1892	Deal, George Francis	Malden	Aug. 2, 1924	53
1866	†Deane, Asahel Sumner	Taunton	Apr. 10, 1925	88
1917	Driscoll, DeCoursey John	Boston	Feb. 11, 1924	45
1891	Duff, John	South Boston	Sept. 19, 1924	64
1895	Farnham, John Marshall Willoughby	Worcester	Nov. 26, 1924	56
1895	Fernald, Walter Elmore	Waverley	Nov. 27, 1924	65
1898	Finch, Edward Bronson	Greenfield	Mar. 1, 1925	55
1882	†Galligan, Eugene Thomas	Roxbury	June 4, 1925	68
1910	Gallison, James Murry	Narragansett Pier, R. I.	June 14, 1924	44
1899	Gavin, John Harrison	Roxbury	Dec. 24, 1924	71
1920	Gleason, Mardis Edward	Newton	Sept. 29, 1924	65
1902	Goodridge, Frederick James	Cambridge	Jan. 15, 1925	51
1877	Hall, Henry Porter	Leominster	Nov. 1, 1924	71
1890	Halpin, Andrew James	Lowell	Oct. 10, 1924	60
1875	†Hammond, William Penn	Clifton	Aug. 10, 1924	80
1900	Harris, William De Blois	Lynn	Dec. 8, 1924	52
1911	Hudnut, Paul Albert	New York City	Jan. 24, 1925	56
1901	Hutchinson, Walter Perkins	Abington	May 14, 1925	58
1919	†Jordan, George Albert	Worcester	1923	78
1889	Keegan, Charles Andrew	Abington	Jan. 15, 1925	59
1895	Kennard, Harry Delano	Peabody	Mar. 6, 1925	56
1905	Kenney, Walter Clement	Winchendon	Oct. 14, 1924	45
1865	†Leavitt, William Whipple	Pittsfield	Dec. 24, 1924	87
1895	Lougee, Frank Taylor	Lynn	Jan. 6, 1925	62
1884	Lovett, Robert Williamson	Liverpool, Eng.	July 2, 1924	62
1898	Maguire, Charles Francis	Somerville	Feb. 28, 1925	52
1909	Marshall, Herman Weston	Boston	Oct. 3, 1924	49
1921	Maxwell, Charles James	Hinsdale	June 4, 1925	39
1899	Newton, Aaron Lewis	Brookline	Jan. 24, 1925	59
1905	O'Malley, Edward Francis	Fitchburg	May 11, 1925	45
1900	Orr, Samuel Sanford	Boston	Apr. 9, 1925	56
1885	†Pitcher, Herbert Frank	Haverhill	Oct. 28, 1924	71
1861	†Prince, James Perrott	Durban, South Africa	Date unknown	
1877	†Putnam, Joseph Morrill	Winchester	Sept. 19, 1924	76
1908	Raymond, Katharine Platt	Wellesley	Apr. 3, 1925	58
1883	Ripley, Frederick Jerome	Brockton	May 11, 1925	68
1921	Risley, John Norman	New Bedford	Dec. 17, 1924	48
1891	†Shanahan, John	Peabody	Nov. 4, 1924	65
1893	Sheehan, William Joseph	Salem	Mar. 17, 1925	58
1913	Sprague, Russell Bradford	Hyannis	Dec. 2, 1924	37
1893	Stapleton, Richard Henry	Brighton	July 18, 1924	58
1868	†Stebbins, George Stanford	Springfield	Nov. 14, 1924	85
1897	Stevens, Henry Bent	West Roxbury	Jan. 31, 1925	55
1903	Sullivan, Florence Augustine	Haverhill	July 15, 1924	47
1893	Tirrell, Vinson Meader	Westborough	Jan. 18, 1925	65
1920	Wentworth, Lowell Franklin	Boston	Sept. 11, 1924	64
1924	Wood, Gilbert Osborne	Framingham	Jan. 19, 1925	47
1905	Yosuf, Abraham Kevork	Worcester	Dec. 26, 1924	58

Total, 62 Deaths.

†Indicates Retired Fellow.

OFFICERS OF THE MASSACHUSETTS MEDICAL  
SOCIETY FOR 1925-1926

ELECTED BY THE COUNCIL, JUNE 9, 1925

**President:** James S. Stone, 286 Marlborough Street,  
Boston.  
**Vice-President:** Michael F. Fallon, 390 Main Street,  
Worcester.  
**Secretary:** Walter L. Burrage, 182 Walnut Street,  
Brookline.  
**Treasurer:** Arthur K. Stone, Auburn Street, Fram-  
ingham Center.  
**Librarian Emeritus:** Edwin H. Brigham, 45 Forest  
Street, Wellesley Hills.

STANDING COMMITTEES

ELECTED BY THE COUNCIL, JUNE 9, 1925

OF ARRANGEMENTS

John Rock L. S. McKittrick W. T. S. Thorndike  
James Hitchcock E. P. Hayden  
H. Q. Gallupe

ON PUBLICATIONS AND SCIENTIFIC PAPERS

E. W. Taylor R. B. Osgood F. T. Lord  
R. M. Green A. C. Getchell

ON MEMBERSHIP AND FINANCE

D. N. Blakely Algernon Coolidge Samuel Crowell  
Gilman Osgood Homer Gage

ON ETHICS AND DISCIPLINE

Henry Jackson David Cheever W. D. Ruston  
S. F. McKeen W. C. Keith

ON MEDICAL EDUCATION AND MEDICAL DIPLOMAS

C. F. Painter J. Forrest Burnham A. G. Howard  
R. L. De Normandie H. P. Stevens

ON STATE AND NATIONAL LEGISLATION

J. S. Stone E. H. Stevens F. E. Jones  
T. J. O'Brien J. M. Birnie

ON PUBLIC HEALTH

Victor Safford Annie L. Hamilton E. F. Cody  
R. I. Lee T. F. Kenney

ON PUBLIC INSTRUCTION

A. P. Merrill Kendall Emerson W. P. Bowers  
J. S. Stone G. C. Shattuck W. H. Robey  
R. I. Lee

PRESIDENTS OF DISTRICT MEDICAL SOCIETIES

VICE-PRESIDENTS (*Ex-Officio*)

Arranged according to seniority of fellowship in the  
Massachusetts Medical Society

C. M. Smith, Suffolk.  
G. L. West, Middlesex South.  
R. P. Watkins, Worcester.  
J. H. Drohan, Plymouth.  
J. E. Fish, Norfolk.  
W. C. Leary, Hampden.  
E. F. Curry, Bristol South.  
A. S. MacKnight, Bristol North.  
W. G. Curtis, Norfolk South.  
R. C. Hurd, Essex North.  
J. A. Barton, Worcester North.  
J. F. Boyle, Middlesex North.  
J. F. Donaldson, Essex South.  
C. R. Henderson, Middlesex East.  
E. F. Curry, Barnstable.  
F. E. Dow, Hampshire.  
Nathan Finkelstein, Berkshire.  
F. A. Millett, Franklin.

COUNCILORS 1925-26

ELECTED BY THE DISTRICT MEDICAL SOCIETIES AT THEIR  
ANNUAL MEETINGS, APRIL 15 TO MAY 15, 1925

NOTE.—The initials M. N. C., following the name  
of a Councilor, indicate that he is a member of the  
Nominating Committee. V. P. indicates that a mem-  
ber is a Councilor by virtue of his office as President  
of a district society, and so Vice-President of the  
general society. C. indicates that he is chairman  
of a standing committee.

BARNSTABLE

E. F. Curry, Sagamore, V. P.  
W. D. Kinney, Osterville, M. N. C.  
E. S. Osborne, West Dennis.

BERKSHIRE

Nathan Finkelstein, Pittsfield, V. P.  
C. S. Chapin, Great Barrington, M. N. C.  
Henry Colt, Pittsfield.  
A. P. Merrill, Pittsfield, C.  
B. W. Paddock, Pittsfield.  
J. B. Thomes, Pittsfield.

BRISTOL NORTH

A. S. MacKnight, Attleboro, V. P.  
W. H. Allen, Mansfield.  
W. O. Hewett, Attleboro.  
F. A. Hubbard, Taunton, M. N. C.

BRISTOL SOUTH

E. F. Curry, Fall River, V. P.  
R. B. Butler, Fall River.  
E. F. Cody, New Bedford, M. N. C.  
A. B. Cushman, South Dartmouth.  
G. H. Hicks, Fall River.  
C. J. Leary, New Bedford.  
J. H. Lindsey, Fall River.  
W. A. Neild, New Bedford.  
G. L. Richards, Fall River.  
I. N. Tilden, Mattapoisett.

ESSEX NORTH

R. C. Hurd, Newburyport, V. P.  
E. S. Bagnall, Groveland.  
J. Forrest Burnham, Lawrence.  
W. W. Ferrin, Haverhill.  
T. R. Healy, Newburyport, M. N. C.  
A. M. Hubbell, Haverhill.  
G. E. Kurth, Lawrence.  
F. S. Smith, North Andover.  
F. W. Snow, Newburyport.  
W. D. Walker, Andover.

ESSEX SOUTH

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## ORIGINAL ARTICLES

### ROENTGEN DIAGNOSIS OF DISEASE IN THE NASAL ACCESSORY SINUSES\*

BY G. W. GRIER, M. D., PITTSBURGH, PA.

*Roentgenologist to Presbyterian Hospital, Passavant Hospital, Magee Hospital and St. John's Hospital. Associate Professor of Roentgenology, University of Pittsburgh*

THE first and most important requisite in this work is the production of Roentgenograms of the highest degree of excellence possible. The invention of the Coolidge tube, the perfection of intensifying screens and lastly, the invention of

the Bucky diaphragm, have made the routine production of such negatives a comparatively simple matter. The correct interpretation of these plates is greatly enhanced if they are made stereoscopically. In the *American Journal of Roentgenology and Radium Therapy* for July, 1921, and June, 1923, the author described a

\*Read before the New England Roentgen Ray Society, Boston, Mass., April 17, 1925.



head rest which makes the technic of stereoscopy of the sinuses as easy a procedure as if the plates were not made in this fashion. In addition, it holds the head still, prevents lateral rotation of the head and indicates the most advantageous angles to tilt the tube in order to uniformly produce the most useful plates. Briefly, the essential part of the apparatus is a semi-circular bar of metal with a square hole cut vertically through the center which allows it to slide up and down on a square upright. (See Fig. "A".) This is

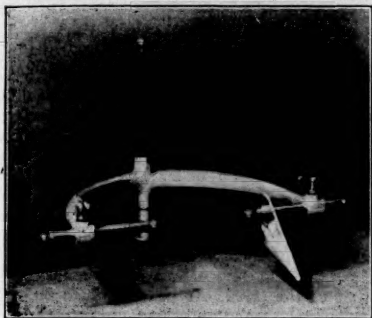


FIG. "A." Semi-circular bar.

fastened at right angles to the top of a plate tunnel, or of a Bucky diaphragm, and when the semi-circular bar is slid on the upright, the bar is then parallel with the top of the tunnel or Bucky and, of course, also parallel with the photographic plate beneath and at an adjustable distance from it. The ends of the semi-circular bar are pierced horizontally to allow the passage of small round rods with rounded ends which protrude into the semi-circle and are also adjustable. In use, the patient lies prone with the forehead and end of the nose against the top of the tunnel or Bucky and the head, of course, within the semi-circle. The semi-circular bar is now slid up or down on the upright until the rods which project into the semi-circle are opposite the external auditory meatus on each side. It is then fastened at that level by means of a thumb screw against the upright and the rods are pushed inward on each side until they rest in the external auditory meatus. When this has been accomplished it is obvious that a plane through the auditory meatus on each side must be parallel to the plane of the X-ray plate. Under these conditions it is impossible for the head to be rotated laterally since the auditory meatus on each side is the same distance from the plate. The rods in the ears maintain the head in this position while the exposures are being made. This is very important since lateral rotation projects the dense shadow of the petrous portion of the temporal bone into the maxillary sinus on one

side and thus obscures any condition which may be present there. It also obscures one ethmoid region by projecting the shadow cast by the bones at the bridge of the nose over the ethmoid cells on the side toward which the head is rotated. These two pieces, the semi-circular bar and the square upright, are the only essential parts of the apparatus. The upright must be square and not round so that the semi-circular bar can only move up and down and not rotate sidewise on it. Sidewise rotation of the semi-circle would result in the head being placed obliquely on the plate. When stereoscopic plates are made with this apparatus the tube is shifted vertically, that is, from head to foot and not across the head from ear to ear. The tube, of course, must be centered at the middle of the occiput. If the patient's head were lying obliquely on the plate from lateral rotation of the semi-circle, when the tube was shifted it would no longer be centered over the middle of the occiput but to one side or the other. This would interfere with stereoscopy and also give a poor plate since if the tube is not centered over the middle of the occiput but to one side, the result would be the same as if the head were rotated laterally; namely, projection of the shadow of the petrous portion of the temporal bone into the maxillary sinus and narrowing of the ethmoid shadow on one side. It is to overcome a similar distortion that the stereoscopy is performed by shifting the tube up and down and not crosswise of the head. It is true that this distortion disappears when plates made after the latter method are placed in the stereoscope. However, such plates are useless except when viewed in the stereoscope, but if they are made by shifting the tube in the long axis of the body, each exposure is a perfectly good single plate and may be examined singly if desired. The only drawback is that when examined in the stereoscope they must be placed on the side the same as chest plates which are made by shifting the tube up and down. However, this is a very minor objection and one very quickly becomes accustomed to looking at his plates in this manner. The square upright may be fastened to the top of any sort of a head rest that one fancies. It is not necessary that the top of the head rest be sloping, although it is more comfortable for the patient if made that way. If it is made sloping, the angle of inclination is immaterial as the tube is adjusted at a fixed angle to the base line of the skull and no attention is paid as to how the head may be bent forward or backward. This is the only accurate method of measuring the angle of exposure. If the tube is set at a fixed angle to the plate and the patient's head adjusted so that the forehead and end of the nose, or the chin and the end of the nose are touching the plate, the angle at which the accessory sinuses present themselves to the tube and plate will depend upon the prominence of

the patient's forehead, nose, or chin. Such a method is inaccurate and unscientific. If plates are to be made stereoscopically, the head rest must contain a plate tunnel so that the plates can be changed without moving the patient's head. Such a tunnel must, of course, accommodate intensifying screens as these are necessary in order to get the required number of plates in the length of exposure which it is safe to apply to the scalp.

I have recently discarded the older type of head rest which I had been using in favor of a flat topped Bucky diaphragm. The square upright is fastened to a removable block which can be placed on the top of the Bucky. With this apparatus I get plates of a very much higher degree of excellence than any I have been able to obtain before. I see no reason why similar results should not be obtained with a curved top Bucky also. The problem of fastening the square upright to the curved top Bucky might require a little experimentation but should not present any very great difficulty. In using the



FIG. "B." Aluminum triangle.

Bucky I have arranged the apparatus so that the tube shift is parallel with the lead strips and have had no difficulty whatever from grid marks on the plate. In placing the patient on the head rest it is better to adjust the patient to the apparatus and not vice versa. I always have the patient lying down, but see no objection to the sitting posture if preferred. The patient moves up or down on the table as may be necessary to bring the rods opposite the auditory meatus. The semi-circle is slid up or down on the upright until it is the proper height and the head is rotated laterally, if necessary, to make the rods fit into the ears on either side. The tube is adjusted crosswise of the head until it is centered exactly midway between the ends of the rods which are in the ears. It is then tilted to the desired angle with the base line of the skull for the first exposure. In order to determine the proper angle to project the central ray through the head, a small triangle made from sheet aluminum is fastened to the inner end of

one of the rods by boring a hole at one of the angles and sliding it over the rod and fastening by an appropriate thumb screw. (See Fig. "B".) This device is a right angle triangle of about  $30^\circ$ , with the altitude about twice the length of the base and is placed on the rod with the apex of the triangle pointing downward and the base of the triangle extending toward the front of the head.

In use the device is rotated until the apex of the triangle is opposite the bridge of the nose. Since the rod to which it is fastened is in the external auditory meatus, the hypotenuse of this triangle is a line extending from the bridge of the nose to the external auditory meatus, or the base line of the skull. The altitude of the triangle is at an angle of  $30^\circ$  to the base line of the skull which is about the angle customarily recognized as the best for demonstrating the accessory sinuses. Caldwell's angle which has been the standard angle in use for many years is  $27^\circ$  with the base line. The first exposure then is made at  $30^\circ$  to the base line. For some time I have followed the custom of making two more exposures with the tube moved toward the patient's feet at each succeeding exposure. The second exposure stereoscopes with either the first or the third. In order to facilitate the making of the second and third exposures I have drawn lines on the aluminum triangle which represent the path of the central ray when the tube has been moved the proper stereoscopic distance for each exposure and also tilted to point to the same place as the first exposure. With these lines it is not necessary to measure the distance the tube is moved each time, but simply move the tube toward the patient's feet and tilt it so that a line drawn from the target of the tube down through the middle of the cone will be continuous with the line drawn on the triangle. In order to determine where to draw these lines on the triangle it is necessary to work with the tube at a fixed distance from the plate. Having decided this distance, draw a vertical line of that length on a large piece of paper. Using this line as the altitude of a triangle, draw a base line  $2\frac{1}{2}$  inches long as this is the distance one must shift the tube for stereoscopic vision. Then finish the triangle by drawing the hypotenuse which will represent the angle at which the second exposure is to be made. (See Fig. "C".) To find the angle for the third exposure continue the base line of the triangle  $2\frac{1}{2}$  inches more and draw another hypotenuse which will represent the angle for the third exposure. Having once obtained these angles, they can be copied on the aluminum triangle and it is only necessary to work at the distance selected and project the central ray along these lines and one will obtain perfect stereoscopic plates. When viewed singly, the first exposure shows the frontal sinuses best because they are spread out more on the frontal bone. The third exposure shows the maxillary

sinus best as the central ray is projected below the base of the skull. If it is desired to project the roof of the sphenoid sinuses into the ethmoid region after the manner described by Granger, a fourth exposure is made  $2\frac{1}{2}$  inches below the third. This stereoscopes with the third and demonstrates the sphenoids superimposed upon the ethmoids. These plates when viewed in the stereoscope will not only show more than the single plate but they also give one a feeling of certainty as to what one sees, which I feel is the greatest advantage of stereoscopy. If one is unaccustomed to viewing plates in this way, he will be surprised at the

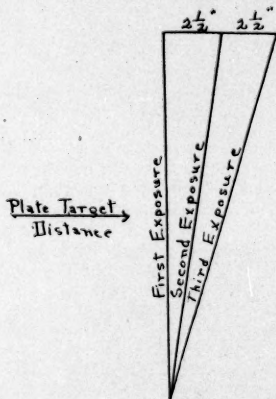


FIG. "C." Method of determining angles for exposure.

slight changes from the normal which can be detected, especially if the plates are made with a Bucky diaphragm. This may prove embarrassing as minor changes may be judged to be of greater significance than they really are and the surgeon misled thereby. Whereas, a few years ago the surgeon complained that the X-ray showed very little except gross pathology that he had already recognized, with plates such as I have just described he now complains that they show too much.

This brings me to the point of saying a word in regard to interpretation of sinus roentgenograms. There is probably no other branch of roentgenology that has passed through such a trying period in an effort to gain a little knowledge. The main reason for the difficulties which have been encountered and the mistakes which have been made has been a lack of knowledge of roentgenology on the part of the rhinologist and an utter ignorance of rhinology on the part of the roentgenologist. Up to the present, little attempt has been made to rectify this serious drawback. The rhinologist has apparently been content to relegate the X-ray to a very minor place in sinus diagnosis; and the roentgenologist

has a very confused idea as to just what the surgeon expects from him and how he can be of assistance. The whole situation needs to be very carefully gone into in an effort to find some common ground on which the two specialties can meet. It seems improbable that the greatest good can be obtained either by the rhinologist reading his own plates, or by the roentgenologist attempting to make the diagnosis. In the first instance, a lack of knowledge of roentgenological findings in general and an experience limited to the practice of one individual, even if large, would seriously handicap a rhinologist acting as his own roentgenologist. In the second instance, the roentgenologist is more seriously handicapped than his confrere as a complete diagnosis can seldom if ever be made without the history, symptoms and physical findings. As an illustration of this point, I would call attention to the fact that an antrum filled with pus as the result of an acute infection and perhaps present for a week or so looks no different on a roentgenogram than an old chronic empyema of the antrum which has possibly been present for years. However, from the standpoint of the rhinologist I assume that the differentiation must be quite important. If sinus roentgenology is ever to become the valuable adjunct in diagnosis which I believe is possible, the roentgenologist must have a better knowledge of sinus pathology and must understand more definitely from the rhinologist just what he expects to find out from the X-ray examination. The rhinologist on his part can greatly aid the roentgenologist by giving him more operative findings so that he may gradually accumulate positive knowledge that certain definite X-ray findings accompany specific pathology as demonstrated on the operating table.

With the foregoing facts in mind it is with some trepidation that I enter upon the discussion of X-ray findings in sinus disease. I shall endeavor to connect the changes seen on X-ray plates with a classification of sinus disease which appears to cover everything that I am able to recognize. In a general way this classification is adapted from Skillern's book "Accessory Sinuses of the Nose."

**Acute Sinusitis—Catarrhal Type:** This condition probably occurs very frequently as a complication of an acute coryza. The inflammation of the nasal mucous membrane spreads through the ostia of the various sinuses and a condition similar to that in the nose prevails in one or more of these accessory chambers. The anterior ethmoids or antrum are more apt to be involved than the frontal. The posterior ethmoids or sphenoids are probably seldom involved. These cases are seldom seen by the roentgenologist, I suppose principally for the reason that no one thinks of having an X-ray taken for a cold in the head. The mucous membrane of the involved sinus becomes very much



swollen and edematous; sometimes myxomatous degeneration takes place. These changes are manifested on the X-ray plate as a very slight but uniform opacity of the involved sinus. The

the canal is occluded and the pus dammed up in the sinus. If the latter were the case the sinus would be entirely filled with pus and consequently the density would be much greater

SINUSITIS	ACUTE	CATARRHAL	Swelling and congestion of mucous membrane.
		SUPPURATIVE	Pus in one or more cavities.
	CHRONIC	HYPERPLASTIC	1. Slight thickening of membrane with increased connective tissue and osteoblasts.
			2. Very marked thickening with much infiltration and diffuse polypoid degeneration.
			3. Large polypi which can be recognized.
	CHRONIC	SUPPURATIVE	Empyema of one or more cavities.
		HYPERPLASTIC WITH SUPPURATION	Pus in sinus previously seat of hyperplastic inflammation. Inferred from fact that other sinuses show hyperplastic changes without pus.

characteristic of this opacity is that it is uniform like the shadow of pus, but the density is very much less than where the sinus is filled with

than the change I have described. Given this very slight uniform opacity in an acute case then, I think it is safe to attribute it to an acute

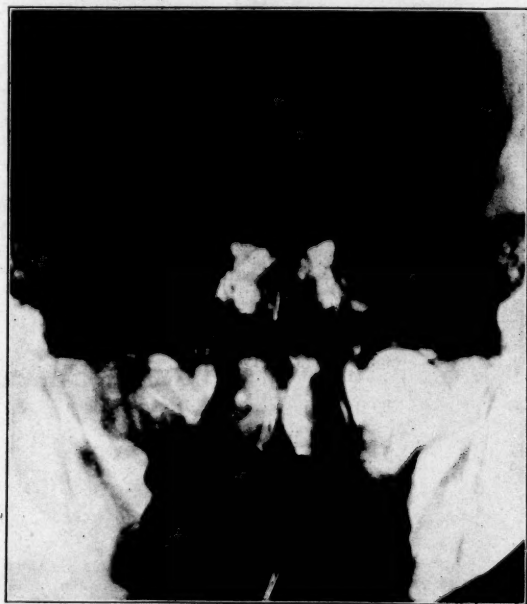


FIG. 1. Acute catarrhal sinusitis of right maxillary. Note slight opacity due to thickening of membrane.

pus. (See Fig. 1.) The rhinologist knows, of course, whether pus is escaping from the ostium of that sinus or not. If it is not, the inference is either that there is no pus present, or that inflammation of the mucous membrane, without pus. Owing to the lack of material it is difficult to say which sinuses are most frequently involved in this condition. I have only seen a

few cases of this sort and in all of them the antrum has been involved. In a few cases the ethmoids and antrum of one side have been affected and in one case the frontal also. It is probable that the condition occurs much more frequently than we have any idea and that a large proportion of the cases of cold in the head that hang on for a long time are accompanied by catarrhal changes in one or more of the sinuses. This condition either resolves slowly, or if the ostia becomes occluded, or if the infection is very virulent, or the patient's resistance low, pus forms

even if there was no obstruction before. The retention of the pus aggravates the condition and thus a vicious circle is formed. In the fulminating type of case which complicates the infectious diseases, pus forms in about 48 hours after the onset of the attack. On the X-ray plate the affected sinus casts a dense uniform shadow, entirely blotting out the sinus outlines. (See Fig. 2.) One or more sinuses may be involved. If more than one, the involvement is usually unilateral. If the antrum is involved first the infection may remain confined to the one sinus.



FIG. 2. Dense opacity of left maxillary in acute suppurative sinusitis.

and the condition merges into a suppurative stage.

**Acute Suppurative Sinusitis:** This may be a sequence of the foregoing as already stated, or it may arise spontaneously as a complication of certain acute infectious diseases, prominent among which are influenza, scarlet fever, measles, diphtheria and pneumonia. It usually arises as a result of swelling of the mucous membrane around the ostium which obstructs drainage, and the retained secretion which was previously thin and watery rapidly becomes infected and pus accumulates in the sinus. Or, if the primary infection is very virulent the secretion becomes infected without such obstruction. After pus accumulates it irritates the mucous membrane of the canal draining the sinus and is apt to cause sufficient swelling to obstruct drainage

If it starts in the frontal or ethmoid, it is likely to spread quickly to the underlying sinuses as the pus naturally gravitates downward. The appearance on the X-ray plate is the same as chronic empyema of the sinuses. In virulent infections where there is very extensive swelling and edema of the mucous membrane, in the catarrhal stage the shadow cast on the X-ray plate may be as dense as that caused by a sinus full of pus. Where such a condition is suspected the diagnosis of pus should be confirmed by other methods. The question of chronicity must be determined by the history. The tendency of this acute type is toward resolution and unless there is some cause which prevents, it will eventually return to normal. After such an attack there may be no changes which can be recognized on an X-ray plate. Under certain con-

ditions this acute suppurative sinusitis merges into the chronic form. The most common cause for chronicity is interference with normal drainage. This may be due to anatomical changes such as variations in the size and location of the ostia, deviation of the septum, enlarged turbinates, etc. It may also be due to swelling of the mucous membrane, polypi occluding the ostium, or to pus which is so thick that it will not drain out. Other causes of chronicity are recurring acute attacks, loss of resistance on the part of

materially connected with the submucous layer that it cannot be separated from it and would reasonably be expected to partake in any extensive inflammation. This thickening of the membrane is probably the result of a previous inflammation of a subacute nature which has lasted long enough to stimulate fibrous tissue changes. I am led to this belief by the fact that cases showing this change have no symptoms of any trouble at the time of the examination and do not present the picture clinically or roentgenologi-



FIG. 3. Slight opacity of left frontal and left maxillary due to thickening of the membrane from old healed sinusitis.

the patient, or extreme virulence of the infection.

**Chronic Sinusitis—Hyperplastic Type:** This term is used here to cover those conditions causing an increased density of the sinus shadow that are due to hypertrophy of the constituent parts of the mucous lining and in which there is no pus present. In other words, the "dry sinus." There appear to be two separate conditions which may be classed under this heading. In the first there is a slight uniform opacity of one or more sinuses which has practically the same appearance as that described for acute catarrhal sinusitis. (See Fig. 3.) I believe this is due to a thickening of the mucous membrane with increase in the connective tissue in the submucous layer and possibly some hypertrophy of the periosteum since this structure is so inti-

ally of the usual case of polypoid degeneration. The shadow cast on the X-ray plate is very slight and would not have been recognized on plates made by the technic of a few years ago. However, with modern improvements and especially by the use of the Bucky diaphragm, these changes are very plainly seen. When one first begins to use the Bucky on sinus plates, he must be careful not to magnify the significance of changes demonstrated by this method.

**Polypoid Degeneration:** This process is primarily the result of irritation rather than of infection. For this reason it may be quite extensive and persistent for a long period without the formation of pus. As a result of continued congestion, the mucous membrane undergoes changes in all of its layers. The epithelium becomes squamous instead of ciliated, the sub-



mucosa is the seat of round cell infiltration and the periosteum becomes hypertrophied with occasional areas of erosion of bone. The overabundance of serum in the submucosa leads to the development of polypi and there is often marked hypertrophy of the connective tissue elements. The practical result of these changes is a marked thickening of the mucous membrane which is normally extremely thin, the development of polypoid growths in the cavity of the sinus and a thickening of the periosteum. All of these add to the opacity of the sinus to the

present, it usually involves more than one sinus and it is the common thing for the antrum to be involved with the others. These growths might need to be differentiated from cyst, mucocele, fibroma, or osteoma. A cyst might vary considerably in size in a short period of time. The only one I have recognized was in the antrum and it varied greatly in size during short intervals of time while it was emptying and filling. A mucocele is apt to become very large and fill practically the whole antrum. (See Fig. 5.) An Osteoma is, of course, much denser than a polyp

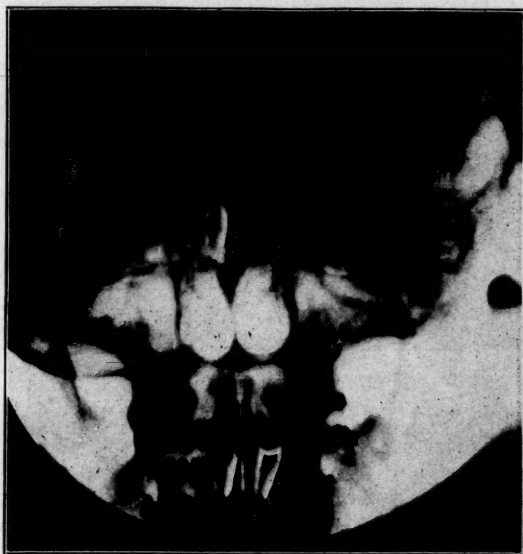


FIG. 4. Large polypi in both maxillary sinuses.

X-ray. The polypi may be comparatively large and few in number, or there may be an actual polypoid degeneration of the mucous lining, in which case there will be a large number of small polypi none of which is sufficiently large to be individually recognized on an X-ray plate. There are three different appearances which suggest the conditions just described. The first, where there are a few large polypi. These can be recognized on the plate. They are roundish or oval in shape, have smooth well defined borders, are usually about a centimeter in diameter. They may, of course, be a little larger or a little smaller. (See Fig. 4.) They are best seen when they occur in the maxillary or frontal sinuses. I have never recognized them in the ethmoids or sphenoids. It is my impression that polypi in the ethmoids are too small and lie in such a location that they could not be recognized individually. However, when this condition is

and should be recognized by this fact. (See Fig. 6.) A fibroma might be very difficult of differentiation as its density is much the same as a polyp.

The second appearance which suggests the hyperplastic type of sinusitis is a very marked thickening of the mucous membrane of the antrum. This is usually seen on the internal and inferior walls. The membrane is often  $\frac{1}{4}$  of an inch thick and as one sees it on edge in the antero-posterior view it shows very plainly. Sometimes there is a uniform thickening along the entire wall. (See Fig. 7.) At other times it bulges inward about the middle of the nasal wall, giving the inner edge of the membrane a long gentle curve. (See Fig. 8.) This change, of course, can only be detected in the maxillary sinus. I am not sure that it represents a diffuse polypoid degeneration. It may possibly be caused by an extreme thickening of the mucous

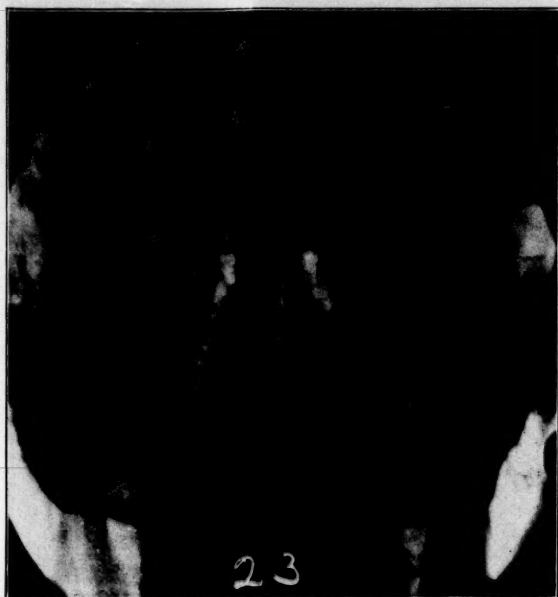


FIG. 5. Mucocoele in right antrum. Polypi in left antrum.



FIG. 6. Osteoma in frontal sinus.

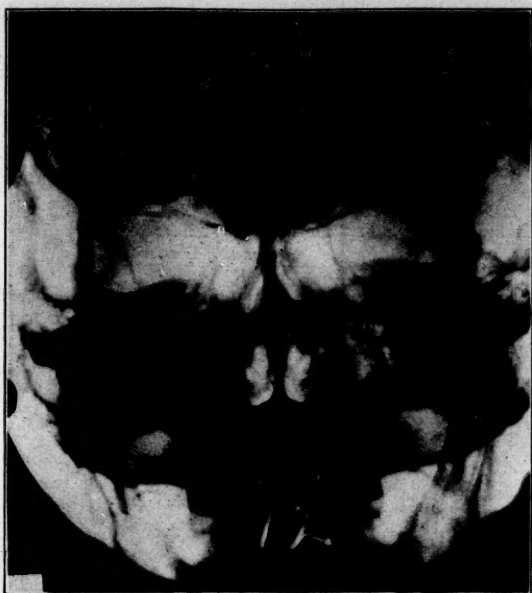


FIG. 7. Marked thickening of the membrane in both maxillaries

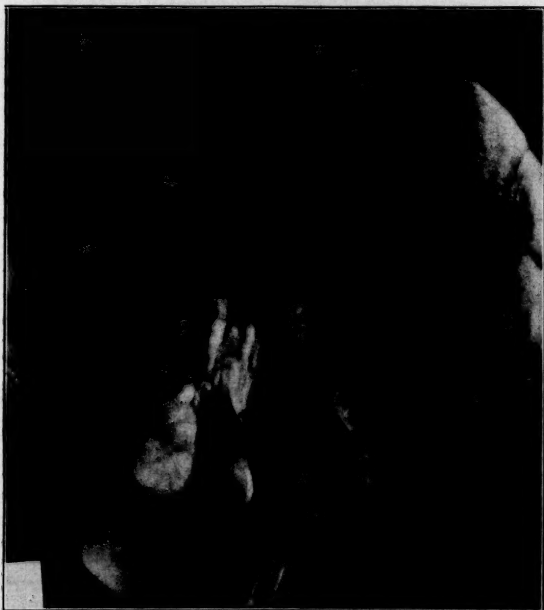


FIG. 8. Note the bulging mucous membrane on the nasal wall of the left maxillary.

membrane from repeated attacks of a chronic suppurative sinusitis, and the X-ray may have been made in an interval during which there was no pus present.

The third appearance consists of a decided increase in density which is not uniform like the shadow cast by pus, but is greater at some places than others, giving the sinus a more or less mottled appearance. The edges of the sinus are not blotted out the way they are when it is filled with pus. These changes can only be detected in the frontal or maxillary sinuses.

ethmoid region. (See Fig. 10.) The differentiation should not be difficult clinically.

*Chronic Suppurative Sinusitis, or Empyema of the Sinuses:* This condition is a sequence of the acute suppurative type. The chief causes of chronicity were enumerated under the consideration of the acute type. In addition to those, foreign bodies or the projection of tooth roots into the antrum might be mentioned. The latter was at one time considered the most common cause for empyema of the antrum. However, I have seen very few such cases. Where

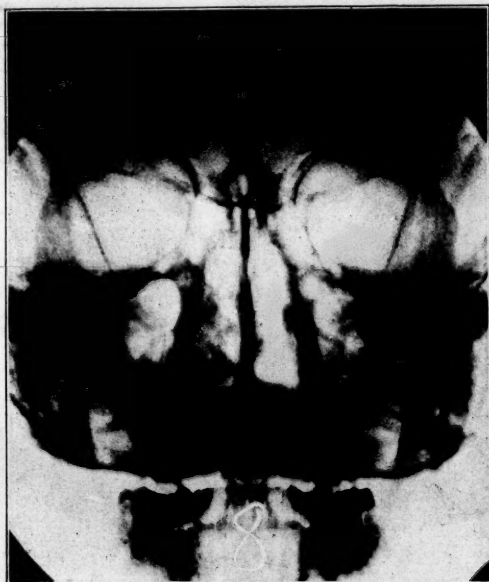


FIG. 9. Note mottled appearance of left maxillary due to polypoid degeneration of the membrane.

While the ethmoids are usually also involved, their character and distribution make it impossible to differentiate this change from the shadow cast by pus. In all probability the uneven appearance of the shadow is due to the irregular thickening of the membrane from the polypoid growths and the irregular deposits of connective tissue and periosteal thickening. The process is much more surely identified in the antrum than in any of the other sinuses. (See Fig. 9.) Occasionally, one sees a case of polypi so extensive that all of the sinuses are entirely filled with them. This gives a dense and uniform shadow such as we see in a pan-sinusitis with all the cavities filled with pus. The only point of differentiation that I know is that in polypi the sinuses are bulging from the extensive growths and this can be recognized in the

this condition is suspected, exposures of the teeth should be made with films in the mouth as this is the only satisfactory way of demonstrating pathology at the roots of the teeth. Excluding the two causes just mentioned, it is unusual to have a suppurative condition starting in, or confined to the antrum. The most common combination is probably an involvement of the frontal, ethmoids and maxillary of one side. About an equal number of cases are seen where the ethmoids and maxillaries either on one or both sides are involved. It not infrequently happens that the active infection is in the frontal or ethmoids and the pus drains down from them into the maxillary which simply acts as a reservoir and may not be diseased itself at all. Such a state of affairs, of course, is not recognizable by X-ray unless the surgeon would wash out the maxillary



and plug up the openings from the frontal and ethmoids, in which case the failure of pus to accumulate in the maxillary would be recognized by subsequent X-ray examination. The maxillary may also be uninvolved if the anatomical relations in the nose are such as to make it difficult for the pus to drain down into it. The anterior ethmoids are more commonly involved with the frontal, the posterior ethmoids with the sphenoids. This is due to the fact that the ostia of the anterior ethmoids are close to that of the frontal and the posterior ethmoids to the sphenoid.

the infection is assumed to be in the anterior ethmoids. At present, I am attempting by stereoscopic lateral views and by a superior inferior view to get more definite information about the ethmoids and sphenoids. The method proposed by Pfahler of introducing a film into mouth for a superior inferior view is the best when it works. However, I have had many failures by this method, either from the patient gagging or moving, especially the latter. The method of stretching the neck and chin out on the plate and exposing through the vertex seems to offer



FIG. 10. Note bulging in the ethmoid region on each side from extensive polyposis.

noids. If only a few of the ethmoid cells are involved it may be impossible to detect the change on the X-ray plate. This is due to the fact that the cells are small and irregular in outline and have no constant shape or number and it is impossible to learn to identify the individual cells as they are normally. Also, their location causes them to be surrounded and overlapped on the X-ray plate by many small bones and bony processes, so that even with stereoscopic plates they are the most difficult of all the sinuses to be sure about. So far I have not been able to differentiate the anterior and posterior ethmoids on the X-ray plates. As mentioned above, if the ethmoids and sphenoid are involved and the frontal clear, the inference is that the process is in the posterior ethmoids; and if the ethmoids and frontal are involved and the sphenoid clear,

some promise when used on the Bucky diaphragm.

In purulent sinusitis the shadow of the involved sinus is uniformly dense so that one cannot see the bony walls through it, nor the boundaries of it. In other words, the sinus appears as if blotted out. (See Fig. 11.) There has been a great deal written about the opacity of pus in the sinuses. It has been stated by some that the opacity one sees is not due to pus but to the hyperplastic changes in the mucosa of the sinus. However, many authorities agree that pus is often present for long periods with little or no change in the mucosa and yet such sinuses are undoubtedly opaque to X-ray. Also, we all know that when an antrum containing pus is rayed before and after washing it out, there is a marked difference in opacity when full and



FIG. 11. Pus in right maxillary sinus.

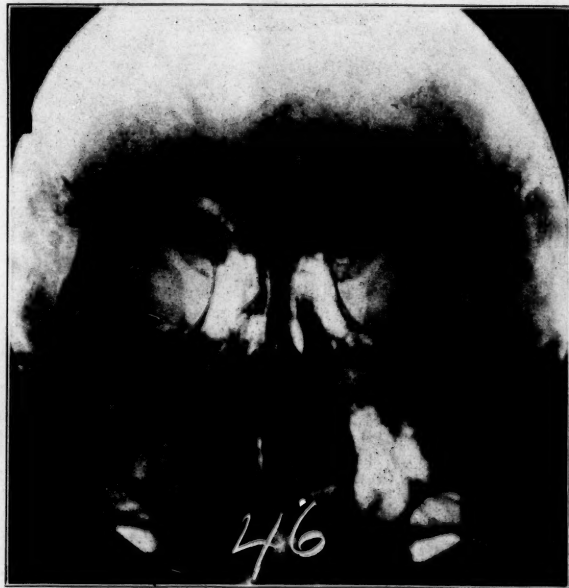


FIG. 12. Syphilitic lesion in right maxillary sinus.



FIG. 13. Carcinoma involving left antrum.

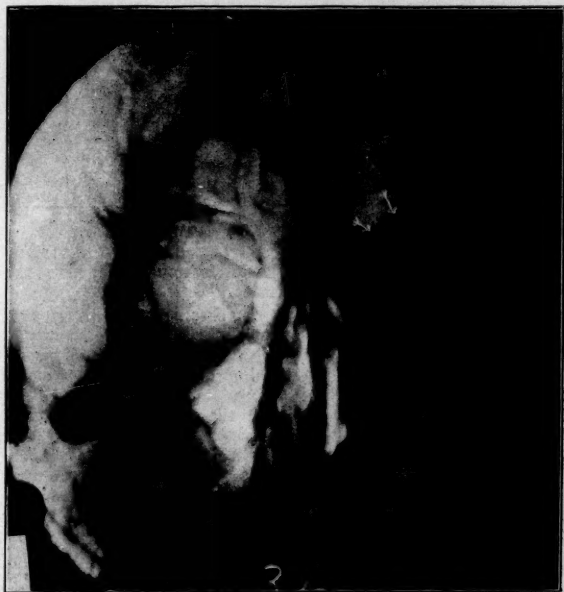


FIG. 14. Erosion from left frontal into the orbit. Pus in left maxillary.

empty. When sinus empyema is accompanied by thickening of the membrane, undoubtedly the latter adds to the opacity, but I believe the characteristic uniform density usually seen is due to the pus itself. The difficult differentiation, of course, is between empyema and chronic hyperplastic changes. I have explained the characteristic appearances of each, but I doubt if it is always possible to recognize them. By coöperation with the rhinologist it may sometimes be possible to work out an obscure case. For instance, raying an antrum before and after lav-

some of them do contain pus in addition to their syphilitic lesions.

Malignant cases also show opaque sinuses when the involvement is in the superior maxilla as in sarcoma, or when it involves the mucosa of the antrum as in carcinoma. (See Fig. 13.) In sarcoma one is usually able to make a diagnosis from the involvement of the bone. In carcinoma, if the lesion is primarily in the antrum, the diagnosis may be difficult by X-ray alone, but should be possible by clinical methods. If the lesion has spread from the mouth there will



FIG. 15. Polypi in right maxillary and pus in left maxillary.

age will show whether the opacity is due to pus or not. The differentiation can also be made clinically sometimes where it is indefinite by X-ray. Pus is probably most easily differentiated from thickened membrane in the frontals and least easily in the ethmoids. In the majority of cases it is not necessary to make the differentiation by X-ray alone as the rhinologist is able to detect pus escaping from some of the ostia, or has other clinical signs which establish the diagnosis. In such instances what he wishes particularly to know is the extent of the involvement.

Syphilitics occasionally show very dense sinuses which cannot be differentiated from pus. (See Fig. 12.) I am not sure just what the actual pathology is in these cases, but I believe that

be destruction of bone along the path of involvement.

In chronic empyema of the frontals or ethmoids there may be destruction of the bony wall with escape of pus into the orbit. Usually the point of destruction is demonstrable on the X-ray plate. (See Fig. 14.) A point of rupture into the cranial cavity may be more difficult of detection. Sometimes an osteomyelitis is induced in the surrounding bone from a spread of the infection by continuity. Such instances are most frequently seen in the frontal bone, or in the alveolar process of the superior maxilla in those cases where a tooth root projects into and infects the antrum. It is occasionally necessary to decide whether dense opacities in the frontal region are due to an empyema of the



frontal sinuses, or to a failure of development of the sinuses. It is usually impossible to differentiate these by trans-illumination. Absence of the frontals is recognized on the X-ray plate by noting normal bone structure in that location; whereas, if the region looks opaque because the frontal cells are entirely filled with pus, the bone structure will not be visible. An opinion should never be given on this point unless the plate shows sufficient detail that the structure of the frontal bone is plainly seen.

*Chronic Hyperplastic Sinusitis accompanied*

demonstrating by X-ray the presence of both lesions at the same time except possibly by washing out the pus if it happens to be in the antrum, and making more plates. I have not had the opportunity of doing this. However, given a case of multiple hyperplastic sinusitis with pus in one sinus and it seems probable that the development of the pus is incidental.

*Post-operative Changes:* If only a small proportion of the mucous lining of a sinus is removed, complete regeneration takes place. However, if most of it is removed it will not regenerate,



FIG. 16. Dense opacity of left maxillary following radical operation. Patient well at this time.

*by Suppuration:* Although hyperplastic sinusitis and suppurative sinusitis are different pathological conditions with a different etiology, cases are occasionally seen in which there is extensive thickening and polypoid degeneration of the membrane and also pus. There are two probable explanations for this fact. First—that an old hyperplastic sinus becomes infected and pus develops. Second—that as a result of repeated attacks of suppurative sinusitis the mucous membrane becomes thickened and indurated in the succeeding efforts at regeneration. It is probable that the first cause is the most common one. These cases usually show the appearances described as hyperplastic in some of the sinuses and pus in one or more of the others. (See Fig. 15.) This would support the theory that pus develops on the basis of an old hyperplasia if one admits the likelihood of a similar process in the infected sinus also. There is no way of

ate, but will be replaced by connective tissue. A certain amount of ossification may take place in this connective tissue. In any event the density of the sinus has been considerably added to by these changes and as they are permanent such a sinus will always be opaque afterward. (See Fig. 16.) If one is not to be misled then the fact of previous operation must be known before interpreting the X-ray findings. It is, of course, impossible to draw conclusions regarding subsequent pathology in such a sinus as it would be masked by the post-operative changes.

*Indications for Operation:* Occasionally a rhinologist operates a sinus case on the strength of an X-ray report and failing to find what was expected believes the X-ray to be worthless in sinus diagnosis. This raises the question as to what X-ray findings indicate operation. If I might answer that question I would say there are none. The X-ray gives information on one

point only, the density of substances. With this in mind the amount of information regarding anatomical and pathological variations, and the character, progress and extent of disease which is constantly being deduced from X-ray plates, speaks volumes for the advances in this Science. However, to place on it the burden of surgical judgment is unfair. The X-ray gives valuable information regarding pathological conditions

in the sinuses. As time goes on, improvements in technic and experience gained in connecting definite X-ray findings with specific pathological changes add to the accuracy of X-ray interpretation. The treatment of the patient, however, remains in the hands of the rhinologist and his judgment in that matter should be based on a proper correlation of all the findings—clinical, physical, X-ray, or what not.

### CASES PRESENTED BY DR. PEER P. JOHNSON AT THE DEMONSTRATION CLINIC AT THE BEVERLY HOSPITAL, JANUARY 20, 1925

#### ACUTE HEMORRHAGIC PANCREITIS

THE first case to be presented this afternoon is a married woman, 40 years of age, mother of 11 children. She entered the hospital on Jan. 14, 1925, suffering from acute abdominal pain which she had had for four days. Pain began suddenly on the morning of January 10th, about fifteen minutes after scrubbing a floor. It was severe, sharp and knifelike, referred to the umbilicus and radiated to the right shoulder blade. She was nauseated but did not vomit. Pain lasted for about two hours and then disappeared. There was soreness along the right costal border. During this first 24 hours there were three more attacks similar to the first, each lasting about two hours. During the next three days she has had some pain at varying intervals but not as severe as at first. Soreness in the right upper quadrant persisted. She noticed that her urine was dark; continued to have a good appetite but was afraid to eat because of discomfort following ingestion of food. She had had no chills and as far as she knew no fever. There had been no previous history of abdominal pain.

On admission temperature, pulse and respiration were normal. Patient is moderately obese. Physical examination was essentially negative except for the abdomen which was protuberant, moderately distended with gas, generally tender and resistant; the most marked tenderness and resistance being localized in the right upper quadrant. In this region it was a question if a mass could not be felt, but this, however, was rather more lateral than usual for a gall bladder. There was moderate tenderness on palpation in the right loin but none in the left. White cell count was 18,000, with 93% Polys. Urine was negative except for the presence of a few red cells; no bile. Stools have been dark. Wassermann negative.

The probable diagnosis on admission was an acute cholecystitis with cholelithiasis. The general abdominal tenderness and resistance raised some question in our minds as to the accuracy of the diagnosis. It seemed wise to observe the patient for a time. She was therefore kept in

bed; had hot fomentations; and was carefully observed. During this past week she has had no acute attacks of abdominal pain. The tenderness and rigidity have gradually lessened. Now the tenderness over the gall bladder region is entirely gone. On deep palpation in the right loin there still remains very slight tenderness. However, three days ago there appeared in the left side of the abdomen a distinctly rounded mass about the size of a grape fruit. The inner limit of this mass was at the umbilicus, the upper margin just below the costal border and the lower margin below the level of the crest of the ileum. This mass can be distinctly outlined and it seems to extend into the groin. There is great resistance and tenderness on palpation in the loin. There is some tympany over the mass which suggests that it is retroperitoneal. The white count this mornig is still 18,000 and there are 83% Polys. The urine still shows nothing. Temperature for the last four days has been between 100 and 101.5. Pulse has been irregular in rate but does not go above 110.

This case is shown to you for assistance in diagnosis. The acute pain with tenderness in the right side suggested gall bladder disease, but, with the gradual subsidence of all symptoms on the right and the appearance of the mass on the left, the problem becomes more complicated. The high white count and the high Polys, accompanied by a moderate temperature, suggests pus. The question is whether we are dealing with an acute pancreatitis with retention of material in the lesser peritoneal cavity, or a perinephritic abscess. If this patient had a history of previous gall bladder attacks, I should believe that our primary diagnosis was an acute pancreatitis. In the absence of this one cannot be sure. At any rate, with the acute subsidence of general symptoms it is evident that the general peritoneal cavity has not been seriously invaded.

Dr. Yudin asked if two distinct conditions might not have arisen; first, the disease of the gall bladder followed by its subsidence, and, onset of some other condition on the left side.

To which the answer was that it was possible but not probable. It is believed that the mass which now makes its appearance on the left is a part of the original condition.

NOTE: This patient was operated upon two days later. Under ether, it could be seen that the mass extended from the left across to the right to about the edge of the right rectus muscle, but the most prominent part of the mass was still on the left. This rather confirmed our belief that the pancreas was at fault. On opening the abdomen through the left rectus muscle, the stomach and transverse colon were found pushed well forward against the abdominal wall. On the left side, the omentum showed areas of fat necrosis. The lesser peritoneal cavity was filled with blood clot and thin bloody serum which was evacuated through an opening in the transverse meso-colon. As well as could be made out, the pancreas was greatly enlarged and friable. The foramen of Winslow was not open. The gall bladder appeared normal. The opening in the transverse meso-colon was sutured to the edge of the parietal peritoneum and drainage placed in the lesser peritoneal cavity and wound closed.

Final diagnosis was Acute Hemorrhagic Pancreatitis.

#### ACUTE CHOLECYSTITIS AND CHOLELITHIASIS

This next patient, an Italian housewife, 40 years of age, entered the hospital January 12th, complaining of severe abdominal pain of four days' duration. The present attack commenced with a sensation of discomfort in the epigastrium which soon became severe, stabbing pain, radiating along the right costal border and to both shoulder blades. Pain was unrelieved by morphine and continued until the following day when it became much less. There was great soreness in the right upper quadrant and marked abdominal distension; some nausea and vomiting.

There is a history also of an intermittent indigestion extending over a period of seven months, characterized by epigastric discomfort, relieved by baking soda and hot water. Solid foods were thought to give the greatest discomfort so that liquids made up the greater part of her diet. There would be intervals of a month or more of freedom from distress. There had never been any severe attacks similar to the present nor any jaundice.

On admission the temperature was 100 and pulse 96. The abdomen was distended and in the right upper quadrant was a firm, sensitive mass in the gall bladder region extending to the level of the umbilicus. Here there was marked muscular spasm. The physical examination was otherwise negative. The urine showed slight trace of albumin and some pus cells. The white count was 15,500. Polys. 77%.

The diagnosis was acute cholecystitis with

cholelithiasis, based on the character of the pain, its radiation and the abdominal findings. The long periods of indigestion were believed to be reflex in character due to the diseased gall bladder.

With such an attack as this patient had I believe that operation should have been advised early. Where the symptoms continue for more than a few hours the chances are that serious damage is being done and what might be an easy operation early, becomes later difficult of performance and much more hazardous for the patient.

As the process had been going on for four days, it was decided to wait over night to see if the symptoms would quiet down. As there was no improvement in the morning an operation was done. The mass was found to be principally omentum wrapped about the gall bladder and held by loose adhesions. All the tissues were deeply injected and bled freely; the gall bladder itself was tense, studded with minute abscesses, the wall much thickened. The aspirated contents were viscous, dark in color and the culture gave a growth of staphylococcus aureus. The mucosa was purplish in color and eroded. A large mulberry stone occupied the upper end of the cystic duct and entirely occluded it.

As the tissues were extremely friable and bled freely the removal of the gall bladder seemed unwise. It was therefore split from fundus to cystic duct, on its lower surface, and the mucosa was entirely peeled away. The major portion of the gall bladder wall was then excised. This procedure was accompanied by but very little hemorrhage and it is believed that this will eventually cause a complete destruction of the gall bladder with cure of the condition for which she sought relief. Had we removed the gall bladder in the usual way there would have been severe hemorrhage which, under such circumstances, would have been difficult to control. Had we contented ourselves with merely draining the gall bladder there would have undoubtedly been a recurrence of symptoms necessitating another operation. These secondary operations in this region are often extremely difficult due to dense and massive adhesions between the viscera.

As you see, this patient is making an excellent recovery, this being the seventh day after operation. The temperature almost immediately dropped to normal. The wound is healing without infection and there is no discharge of bile.

#### DUODENAL ULCER—END RESULT

The next case is that of a man seventy-five years of age who entered the hospital January 19, 1925, complaining of "bleeding piles," of two years' duration. However, he is shown today as an end result case. He entered this hos-

pital in 1919 for the relief of sharp pain, referred to the stomach, coming on two to three hours after eating and relieved by eating or taking soda. Symptoms had persisted for fifteen to twenty years. He gave a definite ulcer history and the diagnosis of duodenal ulcer was confirmed by X-ray and operation. Operation revealed an indurated duodenal ulcer, with fixation of the duodenum and marked hypertrophy of the pyloric muscle. Because of his poor condition no attempt was made to excise the ulcer. A posterior gastrojejunostomy, short loop, operation was done and the pyloric orifice occluded by silk suture. He has been entirely free, since that date, from all symptoms for which he was operated upon. He is able to eat anything and never has any stomach trouble.

#### ACUTE PERFORATION OF DUODENAL ULCER

The next case is a young man, unmarried, twenty-one years of age, who, while returning from his work as a plasterer on January 13th, was seized with severe abdominal pain. This was about five-thirty P. M. Pain was so intense that he was unable to proceed home and was brought to the hospital in an ambulance. On admission he was lying quietly on his right side, complaining of severe pain referred to the epigastrium. His color was good and his temperature, pulse and respirations were normal. In fact, he did not present the appearance of a severe abdominal lesion. White count was 12,400, 71% Polys, urine negative. Abdomen was retracted and there was general, moderate rigidity of the abdomen with the rigidity most marked in the right upper quadrant. Tenderness was most marked over McBurney's point. Percussion revealed nothing abnormal. From the general rigidity of the abdomen it was evident that there was acute invasion of the peritoneal cavity. Acute perforated duodenal ulcer, acute gall bladder and acute appendicitis were considered. In spite of careful and persistent questioning, no history suggesting duodenal ulcer could be elicited, although he admitted he had had an occasional attack of gas in the epigastrium between three and four o'clock in the afternoon, which passed away with its eructation. He never had taken any soda or noticed that taking of food into the stomach relieved this pain, and such attacks did not occur oftener than once in several weeks. There was no history of previous gall bladder disease. However, in spite of the absence of history, the pre-operative diagnosis was acute perforated duodenal ulcer or acute appendicitis.

He was operated on a little less than two hours after onset. The abdomen on the right side and in the pelvis was found to contain a turbid, soapy fluid, dark brown in the pelvis and lighter flank. Peritoneum was injected. Appendix was normal, but there was a clean cut

perforation in the upper surface of the duodenum, about one-half inch from the pylorus and about one-half centimeter in diameter. The perforation occupied the center of an indurated ulcer a little over two centimeters in diameter. Purse string suture of silk was put about the perforation and a small tab of omentum planted over it. Owing to the slight amount of soiling and the short period between perforation and operation, it seemed safe to close the abdominal wall without drainage. Following operation it was learned from his mother that he had suffered from indigestion for years, although there was no history which suggested duodenal ulcer. Patient made a good recovery except for a mild bronchitis. His abdomen is soft and the wound is healed without infection.

Mention was made of the possible diagnoses considered previous to operation. They were: acute perforated ulcer; acute pancreatitis; acute gall bladder; and acute appendicitis. Acute gall bladder was ruled out because of the physical findings: General abdominal spasm. The pathological process so early in the attack would have been entirely limited to the gall bladder. Even tenderness over the viscus is hard to elicit at such a time. Acute appendicitis need hardly have been considered for the same reason. However, I recall one case some years ago on which we operated for supposed perforated ulcer because of a violent onset of abdominal pain with general abdominal rigidity. There had been a long history of indigestion suggestive of ulcer. Operation revealed an acute perforated appendicitis, the appendix being located high under the liver. Acute pancreatitis could not be so readily ruled out but it is much less common than an acute perforation of duodenal ulcer and, in our own limited experience, it has practically always been possible to get some history of previous gall bladder disease. No such history could be obtained in this case.

In spite of lack of ulcer history, a perforated ulcer was the most likely to account for the symptoms of an acute general peritoneal invasion. It has occurred a number of times in our experience that we have been unable to elicit an ulcer history in such cases, due generally to the intense anxiety and pain under which the patient is suffering. Following the operation it has been possible to obtain such a history either from the patient or some members of his family.

At any rate an acute violent abdominal pain accompanied by immediate general muscular spasm, and usually by symptoms of a more or less profound shock, are symptoms of serious import and warrant an early exploration of the abdomen. The earlier the abdomen is opened, the better, as this patient gives evidence.

#### THYROID CYST

This patient is a woman 57 years of age, who entered the hospital some ten days ago, with



symptoms suggestive of hyperthyroidism. For 25 years there had been nervousness, marked tremor of hands, tachycardia and attacks of profuse perspiration. For the past five years there has been swelling of the thyroid gland. Two years ago she consulted a physician for this swelling and was advised to paint it with iodine. A month ago she consulted another physician who advised an operation. As you see, she is a spare woman but there is no history of any marked loss of weight. She had a firm, moderately fixed swelling of the right thyroid and her basal metabolism was plus 19. Although this is just above the normal limit we did not believe her symptoms were due to hyperthyroidism but explainable by other causes. Tumor of the thyroid was the pre-operative diagnosis. Operation revealed a firm, cystic tumor extending below the sternum. It was readily enucleated. The remainder of the thyroid gland was not enlarged but rather atrophic. A few bad teeth were removed at the same time. Her reaction to operation was not that of a toxic goitre.

Attention is called to this case primarily for one reason. You will note that the patient was advised to paint the neck with iodine. This advice is open to serious criticism. In the first place, although many men are giving iodine indiscriminately, it cannot be in any way considered a cure for goitre. Its dangers are great. If this were a simple goitre, iodine was not indicated and its exhibition might be the cause of producing symptoms of hyperthyroidism. Were it a case of hyperthyroidism, iodine should be administered internally, preferably as Lugol's solution, but always under the strictest supervision and with metabolism tests at least once in three days. In such cases there is generally striking improvement in from six to twelve days. At this point, operation should be done. If not, and the iodine is continued, the gain is lost and the patient becomes worse than before. We have a striking instance of this in the hospital at present. A young woman suffering from hyperthyroidism was given tr. iodine internally by her physician. In a brief time she noticed marked amelioration of her symptoms with a gain in weight. She continued, by herself, to take the iodine with subsequent recurrence of her symptoms, worse than before, with very marked loss in weight.

Briefly then, iodine should only be given in cases of hyperthyroidism and then only under the strictest supervision, with metabolism tests at three day intervals. Iodine is not a cure but a crutch with dangerous possibilities.

CHARLES T. ALDRICH and Henry L. Aldrich, brothers, have announced joint gifts of \$500,000 each to Brown University and to the Rhode Island Hospital on condition that an equal amount shall be raised by each institution.—*Science*.

## THE WORLD'S CHILDREN

### MORE PLAY, LESS DELINQUENCY

88 out of every 100 children brought before juvenile-court officials in Omaha live one-half mile or more from the nearest playground, according to a study by Professor T. E. Sullenger of the University of Omaha.

Omaha's juvenile delinquency rate for 1922-23 was 3.1 per cent. compared with 1920 rates of 3.8 for Washington, D. C., 2.4 for Boston, and 1.2 for Buffalo, it is pointed out. Remedies for juvenile delinquency urged by Professor Sullenger are more playgrounds, enforcement of pool-room laws, censorship of motion pictures, fewer boys in street trades, more Boy Scouts, better enforcement of school laws.

### SAFETY EDUCATION

Half the toll of children killed by accidents in the United States might be saved by a campaign of safety education in the schools, according to the National Bureau of Casualty and Surety Underwriters. Three university fellowships of \$1,000 each for the study of safety education have been established by this Bureau.—*Weekly Notes on Child-Welfare Topics Compiled by the U. S. Children's Bureau*.

## PERIL IN ATHLETICS

DR. MURLIN, formerly President of Boston University and now President of De Pauw of Green Castle, Ind., deplors the continuation of athletics according to the present scale as set forth in his inaugural address. Speaking of athletic contests, he says, "The whole spectacle is out of tune with the things for which the colleges and universities stand. Certain it is that the American college can not keep up such a pace."

## AN ESSENTIAL FOOD

SECRETARY OF COMMERCE HERBERT C. HOOVER, who had charge of feeding 1,200,000 children in devastated France and Belgium, makes the following significant statement regarding dairy products:

"The foundation of child health lies in proper feeding. . . . The white race cannot survive without dairy products."

Secretary Hoover, as Director of the Food Administration during the war, realizing the importance of all milk products, declared ice cream to be an essential food, and classed it as necessary, with beefsteak, milk, eggs, butter, and other staple articles of diet.

Dr. E. V. McCollum, of Johns Hopkins University, states, "everyone should use daily a quart of milk or its equivalent in other dairy products."—*Bulletin Chicago Dept. of Health*.

**Case Records  
of the  
Massachusetts General Hospital**

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN  
WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY

RICHARD C. CABOT, M.D., AND HUGH CABOT, M.D.  
F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 11281

MEDICAL DEPARTMENT

An Italian laborer of fifty-seven entered May 8 complaining of difficulty in breathing. He spoke no English. The history was given by a friend.

Six weeks before admission he cut the back of his left hand with a rusty nail. The hand became infected. The redness and swelling gradually extended up the arm. At the end of three weeks the whole arm up to the axilla was very much swollen. He then consulted a doctor who made an incision in the hand with evacuation of a good deal of pus. Since that time the swelling had gradually gone down. Two weeks before admission he began to have difficulty in getting his breath and a sense of constriction under his sternum. His heart beat forcibly and his face and hands became cyanotic. Since that time his respiratory distress, sense of substernal constriction and lividity had been getting progressively worse. An insurance doctor reported that May 3 the patient went to him to have his arm tapped. The arm presented the picture of a subsiding septic arm with only a little induration and swelling. The patient showed none of the lividity or respiratory distress which he presented at admission to the hospital.

Examination showed an obese man with cyanosis, most marked in the chest, head, and arms. The teeth were bad. There was marked pyorrhea. The chest was barrel shaped. The diaphragm was high and moved poorly. The lungs were hyperresonant, the breathing emphysematous. The apex impulse of the heart was felt in the fifth space 13 cm. to the left of midsternum, 4 cm. outside the midclavicular line, coinciding with the left border of dullness. The right border of dullness was 6 cm. to the right, the supracardiac dullness 10 cm. The sounds were of fair quality. The heart was otherwise normal. The blood pressure was 135/90 right, 132/86 left. There were dilated veins in the neck and arms and over the thorax. There was epigastric tenderness. The fingers and toes were moderately clubbed. The left forearm and hand were more swollen than the right. The knee-jerks were active. The ankle-jerks were not ob-

tained. There were marked varicosities of the left leg and some of the right. The pupils were irregular. Their reactions were normal.

The temperature was 99° to 99.5° by rectum, the pulse 100 to 112, the respirations 20 to 29. The amount of urine is not recorded. The specific gravity was 1.032. The urine was cloudy and alkaline at the single examination, with a very slight trace of albumin. The hemoglobin was 80 per cent., the leucocytes 9,200, the polynuclears 87 per cent. The reds were 3,640,000; no achromia, anisocytosis or poikilocytosis. No Wassermann is recorded. Dr. Paul D. White said in consultation, "Evidently a high degree of mediastinal pressure, mainly superior mediastinal syndrome. The heart apparently not responsible and not failing. . . . Venesection should help temporarily. If Wassermann is positive antiluetic therapy should be pushed. A somewhat similar case was cured in this way here a few years ago. Morphine indicated." X-ray showed increase in the width of the mediastinal shadow. The diaphragm appeared high on both sides. The film was underexposed and unsatisfactory for interpretation of further pathology.

The orders were for soft solids, fluids ad libitum and morphia gr. 1/6 to 1/4; May 9 potassium iodid ten drops t.i.d.

May 9 the patient showed the same appearance as at entrance. That afternoon, while the question of possible surgical treatment was being considered, he suddenly stopped breathing.

DISCUSSION

BY DR. RICHARD C. CABOT

NOTES ON THE HISTORY

Five days before he came here he did not have his symptoms—namely jaundice and I suppose a change in his color—although he had them two weeks before. So that they seem to have been intermittent.

NOTES ON THE PHYSICAL EXAMINATION

DR. RICHARDSON: This man was not obese. He was strongly built and muscular, but the amount of subcutaneous fat was small.

DR. CABOT: He was here only two days, so that he could not have lost his weight in that time. I guess the record is wrong.

By percussion there is certainly an enlarged heart.

The blood pressures in the two arms agree within four in the case of the diastolic and three in the case of the systolic. I should say there was no difference. Why did they take it on both sides? Presumably because they thought there might be an aneurism as a cause of local obstruction to the circulation and the respiration. Evidently the question of some pressure on respiratory and circulatory structures was

in the minds of those who made this examination. The dilated veins confirm what I have just said.

This is not a urine finding which would lead us to prophesy any renal lesion.

It is very strange that there should be no achromia, anisocytosis or poikilocytosis, especially no achromia with as much anemia as this, if the count is correct.

#### DIFFERENTIAL DIAGNOSIS

The suddenness of the end, the condition of the dilated veins over the chest, the swelling of the left arm predominant over that of the right, and the way this disease came on, all certainly make me feel that they were right in suspecting and that Dr. White was right in definitely stating that mediastinal pressure of some kind was present here. The diagnostic question then is, what is its cause?

It is certainly natural to assume that it had something to do with his previous infection. The obstruction comes on in a man previously well and without anything to suggest mediastinal trouble. It comes on after an infection of the arm. What is there in an infection of the arm that can connect itself in any way with a mediastinal block? Well, thrombosis; just what thrombosis I am unable to say. If it were a pulmonary embolism it seems as if there should be more definite unilateral signs, such as hydrothorax, and apparently there is nothing more in one lung than there is in the other. The chest is hyperresonant and so on, but we get no account of anything more on one side than on the other. And as we look at the X-ray plate, while it is a pretty poor plate there is nothing to show more trouble on one side than the other, although the left may be a little more opaque. The mediastinal shadow certainly is wider than the average.

What else, other than thrombosis, could it be? It could be an aneurism. It is true that it seems strange that an aneurism should suddenly show itself after the occurrence of a septic arm, but that may perfectly well be coincidence. The fact of his having clubbed fingers certainly suggests that he has had some cause for mediastinal disturbance lasting more than six weeks. I have known clubbed fingers to come on in six weeks. I think it is rare. They are only moderately clubbed here, it is true. If he had an aneurism it seems to me that ought to have given more physical signs. Perhaps those were prevented by the shape of his chest, the bulging forward of the bones. But there is nothing abnormal in his breathing as they told us about it, no stridor or wheezing, which one almost always sees with deep aneurism.

What about new growth? It does not show itself anywhere else. That does not exclude it. Perhaps it is confined to the chest. Still, in most cases of mediastinal tumor we find glands

outside the chest, in the axillae, neck, or somewhere else. And neither aneurism nor new growth would hitch themselves in any way with the sepsis, which I am anxious to do if I can. I believe his sepsis has produced the well marked secondary anemia which he has. It seems queer that an aneurism or a new growth should kill a man within six weeks of the time it first appeared. I cannot recall at the present moment any case which has gone from start to finish in that time. However, this man was an Italian who spoke no English, and the history was given by a friend. Such histories are notoriously incorrect. Perhaps he had had symptoms for more than six weeks. So that we cannot put a great deal of weight upon the point that so chronic an affair as an aneurism or a new growth ought to have shown itself for more than six weeks, because perhaps it did.

On the whole the thing that weighs most with me is that I should like to make this case all hang together. If we say aneurism or new growth we have to have two separate diagnoses, the sepsis which began his illness and presumably has produced his anemia, and the other trouble. So I am inclined to think this is a thrombosis. If you ask, a thrombosis of what, I do not think I can be any more definite. It cannot be of the superior cava or he would not have lived at all. Yet the distribution of distended veins apparently is bilateral, and we have to get something which will account for his having respiratory distress and his breathing suddenly ending.

Perfectly possibly it is a pulmonary embolism or thrombosis. It might, I suppose, be bilateral. Pulmonary embolism and thrombosis are very well recognized in connection with a septic process. They can produce all the symptoms he has. They are not ordinarily so chronic as these symptoms have been. Pulmonary embolism and thrombosis, if they cause death, do not ordinarily last two weeks. Still I do not know anything better to say than that this man died of embolism and thrombosis secondary to sepsis, and my best guess is that it is of the lung.

DR. YOUNG: Would you consider a frank sepsis of the mediastinum? We should have to assume an overwhelming thing, of course.

DR. CABOT: I think I probably should have considered that if I had known more about it.

DR. YOUNG: I do not remember having seen a case.

DR. CABOT: We have had some, I am quite sure.

#### CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Mediastinal tumor?  
Vena cava thrombosis.  
Purulent mediastinitis.  
Aneurism?

## DR. RICHARD C. CABOT'S DIAGNOSIS

Embolism and thrombosis (pulmonary?) secondary to sepsis.

Hypertrophy and dilatation of the heart.

## ANATOMICAL DIAGNOSIS

1. *Primary fatal lesion*

Carcinoma of thymus with metastases in pleura, lungs, epicardium, liver, and tracheal and cervical lymph glands.

2. *Secondary or terminal lesions*

Hypertrophy and dilatation of the heart.

Chronic passive congestion.

DR. RICHARDSON: This man was well developed, strongly built. Head. The pia was infiltrated with thin, pale, clear fluid and the brain tissue was wet.

The face, neck and upper part of the thorax showed marked purplish discoloration. There was a small purplish-red area in the left cubital space. The left lower extremity showed varicosities.

There was a small amount of subcutaneous fat. The muscles were large. There was a small amount of thin brownish red clear fluid in the peritoneal cavity. The gastro-intestinal tract was negative except for well marked chronic passive congestion.

The liver was 9 cm. below the costal border on the right side. The diaphragm on the right was at the fifth rib, on the left at the fifth interspace.

In each pleural cavity was a small amount of thin pale clear fluid, and on each side a few adhesions posteriorly to a tumor in the mediastinum. No definite thymic tissue was found. The trachea and bronchi were negative except that they were pressed on to some extent by the mass in the mediastinum. The bronchial glands were generally pigmented, soft, and negative, but along the trachea there were several enlarged glands which showed infiltration with new-growth-like tissue. In the lower cervical region were a few similar glands.

Extending down from the sternal notch and down along and beneath the sternum and pushing into the mediastinum was a large mass of new-growth tissue 14 by 10 by 5 cm. The lower border of the mass extended along the pericardium. This mass in the mediastinum extended along the great vessels and very nearly around them, constricting them all, all the vessels running to and from the heart, and plaques of new-growth extended along the aorta, especially the arch, and around, more or less, the great branches of the arch.

The lung tissue was edematous. Scattered over the pleura were numerous smaller and larger plaques which extended in instances for a short distance into the lung tissue.

The pericardium contained a few cubic centimeters of thin brownish-red fluid, and on the epicardium in scattered places were small plaques and nodules. There were some on the epicardium of the right auricle and along the wall of the aorta within the pericardium. The heart weighed 500 grams, which was moderate hypertrophy for him. The valves and cavities were negative. The cavities all contained large amounts of currant-jelly-like blood clot. The aorta and great branches, the pulmonary artery, veins, vena cava, negative except where they were constricted as mentioned.

The liver weighed 1950 grams, showed congestion, in the right lobe a definite nodule of new-growth tissue, and in the upper part of that lobe, toward the median line, three other small masses. The spleen was moderately enlarged, 345 grams, the tissue dark brownish-red, elastic,—congestion. The kidneys were rather large, and wet, and showed congestion.

DR. CABOT: Have you anything to say as to the origin or nature of the tumor?

DR. RICHARDSON: The sections showed the new growth to be a carcinoma of the thymus gland with metastases as mentioned.

## CASE 11282

## SURGICAL DEPARTMENT

A French Canadian cabinet maker of fifty-nine entered December 29 complaining of trouble with his spine. His past history was entirely negative except for gonorrhea in his youth. He was a moderate smoker and drinker.

A year before admission he ran a splinter into the palm of his left hand. The wound went septic and required incision and dressings in the Out-Patient Department for three weeks. This entirely healed. Two weeks later he began to have burning on urination and frequency, with difficulty in starting the urinary stream, which was small. He had several severe chills, fever, weakness and loss of appetite. He went for six weeks to a hospital where he had two operations on the perineum and the scrotum, giving complete relief. He returned to work and felt perfectly well until four months before admission. Then he began to have very vague, diffuse aching pain over the lumbar spine and through the abdomen, "pulling like a toothache," worse at night, so that he had been able to sleep but poorly for the past few months and best in a sitting position. The pain was worst in the epigastrium but was also very severe in the back, with a peculiar burning sensation. There were remissions, usually in the morning, enough for him to rest a little. Acetylsalicylic acid gave the most relief. He continued work until two weeks before admission. Then one morning he found both legs numb from the knee down. They had continued numb, and in walking felt very heavy, so that he needed a cane, though he had



complete muscular control. For two weeks his bowels had been growing constipated, moving with difficulty every two or three days with laxatives. Straining caused pain in the lower abdomen and back. He had a feeling of urgent call to stool and then great difficulty in defecation. Difficulty in starting urination had persisted. In the past few months he had lost about fifteen pounds. He had severe pain at the level of the twelfth dorsal vertebra on coughing. December 18 a Boston roentgenologist reported a

tum. There was a small linear scar just beside the rectum. Rectal examination was negative.

Before operation the temperature was  $96.4^{\circ}$  to  $99.1^{\circ}$ , with one rise to  $100.3^{\circ}$  January 7, the pulse was 66 to 90, the respiration normal. The amount of urine is not recorded. The specific gravity was 1.014 to 1.028. The urine was cloudy at two of five examinations, showed the slightest possible trace of albumin at one, a few to occasional leucocytes at the first four, great numbers of leucocytes at the fifth. Residual 130 c.c.

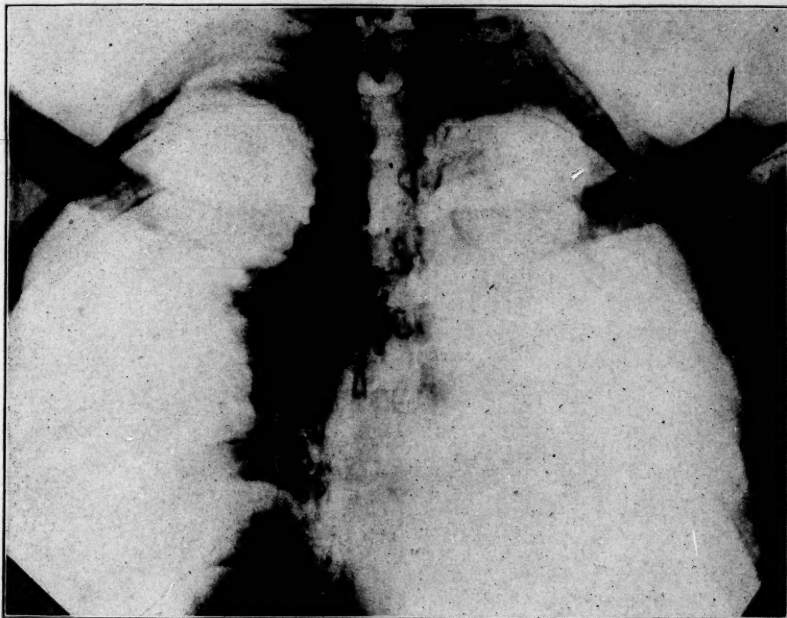


PLATE I. Taken January 6, after the injection of lipiodol into the spinal canal. Shows the shadow of the lipiodol overlying the fourth and the upper border of the fifth dorsal vertebrae. The lower border of the shadow appears somewhat irregular and pointed, suggesting probable obstruction at this point.

very considerable degree of arthritis involving the upper lumbar and lower dorsal spine, and two large abscesses involving a number of teeth. "A peculiar bony formation in relation to the first and second lumbar bodies we believe due to an infectious arthritis with bony overgrowth."

Examination showed a well nourished, rather sallow and puffy man with scant hair and eyebrows. The teeth were poor. Half those in the upper jaw had been recently pulled, and many of the lower teeth were also missing. There was moderate pyorrhea. The chest expansion was poor. The heart and lungs were normal. There was moderate pot-belly. There was no evidence of past chancre and no visible scar of the operation which he said was performed on the sero-

December 30, 320 c.c. January 6. The hemoglobin was 80 per cent, the leucocytes 11,400, polynuclears 78 per cent., reds normal. Lumbar puncture December 30 gave clear colorless fluid, initial pressure 110, after withdrawal of 5 c.c. 110, after withdrawal of 10 c.c. 50. Deep inspiration 5, cough 25-40, jugular compression rise 120-460, staying up without dropping back, also marked slow fall after cough. Total protein 143, goldsol 1233354321, cell count 10.

Neurological examination January 2 showed the cranial nerves normal so far as examined. The arms were normal. The gait was spastic-ataxic, with a tendency to fall to the left on walking and standing, not apparently increased with the eyes closed. The knee-jerks and ankle-

jerks were very lively. There were one or two clonic movements. The plantars gave no response. All forms of sensation appeared normal over the legs, thighs and trunk. The left cremasteric was just obtained. The right was ab-

to the twelfth vertebra. If negative or doubtful advise cistern-lumbar puncture with or without lipiodol at the same time."

January 5 X-ray of the spine showed distinct spur formation about the margins of the bodies

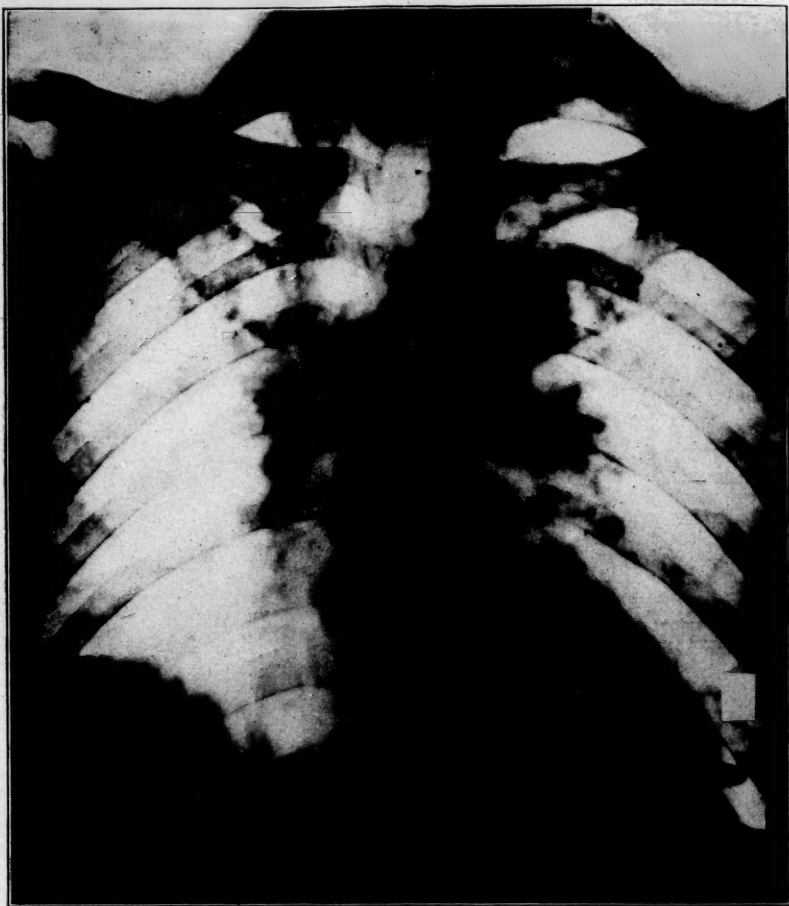


PLATE II. January 8. The mass of the lipiodol is in the same place in which it was observed in previous plates, although a small portion has passed on into the lumbar region.

sent and the abdominal reflexes absent. The spine was normal at rest and on motion. Vibration sense was perceived throughout. The bladder showed a residual of 120 c.c. The patient said that lancinating pain was severe around the body from about the twelfth thoracic vertebra posteriorly to just below the ensiform anteriorly, and that it was much increased by coughing and sneezing. "Advise X-ray from the fourth

characteristic of arthritis. The spine was otherwise negative.

January 6 a cistern-lumbar puncture gave clear colorless fluid from both regions. At the cisternal puncture the initial pressure was 130, pulse oscillation 1, respiration 4, cough 160, grunt 180, jugular compression rise 300, abdominal compression 200; pressure after withdrawal of 5 c.c. 70, jugular compression

again 190. At the lumbar puncture the initial pressure was 220 (160 before cistern puncture), pulse oscillation 0, respiration 1, cough 240, grunt 290, jugular compression no rise (200), abdominal compression 330; pressure after withdrawal of 5 c.c. 65. On jugular compression there was no rise in the manometer, the pressure remaining at 65. Cell count 41. Lipiodol 1:5 c.c. was injected into the cistern. The fluid from the cistern showed a total protein of 13, sugar 80, chlorids 731, goldsol 0000000000. The lumbar fluid gave a total protein of 279, sugar 71, chlorids 725, with plasma 605, goldsol 0022223334.

X-ray examination of the spine January 6 following the injection of lipiodol into the spinal canal showed the shadow of the lipiodol overlying the fourth and upper border of the fifth dorsal vertebrae. The lower border of the shadow appeared somewhat irregular and pointed, suggesting probable obstruction at this point. January 8 the mass of the lipiodol was in the same place in which it was observed in previous plates, although a small portion had passed on into the lumbar region.

Another neurological examination showed hyperesthesia in front to just below the level of the nipples, the fourth thoracic being the highest tender vertebra. Vibratory sense was diminished up to and including the sixth thoracic vertebra.

January 10 operation was done. The patient was unable to void for the next three days, requiring eight hour catheterization. He moved both legs with difficulty. There was no change in the reflexes and no Kernig. His neck was slightly stiff. The chart was normal. There was moderate sanguineous drainage, suture from which showed staphylococcus aureus. On the 15th there was slight redness around the wound. He was now able to void a little. The temperature was 100.2° to 102°, the pulse 91 to 121. By the 17th the temperature was down, the leucocyte count was 34,400, the neck was no longer stiff, and he moved his legs better and was able to pass urine. January 21 much pus was expressed from the wound. A culture showed no growth, but another January 23 showed a profuse growth of staphylococcus aureus. January 24 an incision in the back showed two sinuses in the most dependent part draining pus, and a series of stitch abscesses at one suture point. Daily irrigation with Dakin's solution was done through a catheter. By the 26th the wound was beginning to look better and the patient was sitting up, but the abdominal muscles and legs were very weak. January 30 the whole length of the sear was red-dened. There were two sinuses at the lower end, the lower extending upward an inch, the other upward about three inches, and a third sinus at the upper end extending downward three inches. Profuse yellow pus drained from the sinuses. Dakin's tubes were placed in the

sinuses. Dakin's solution every three hours was ordered. The tubes were removed daily, and the sinuses washed out thoroughly. The patient seemed a little better. His worst difficulty was despondency and lack of energy. For a week he had been troubled with diarrhea for which he was given deodorized tincture of opium. He was usually incontinent of feces and often of urine. He knew when a bowel movement was coming, but was unable to stop it. The wound continued to show mild discharge, though there was considerably less redness about it. Mercurochrome was used daily. February 7 there still was considerable pus in the lower pocket. Dakin's was continued in this pocket. The patient was pale and without energy. The wound improved slowly. February 13 he was discharged.

#### DISCUSSION

BY DR. W. JASON MIXTER

Nothing is said concerning the type of the operations on the perineum and serotum. We may find something about that later.

This is the history of a man who has had chronic sepsis, traumatic, starting in the hand and later apparently involving the prostate or bladder, at any rate causing difficulty in starting urination and relieved by operation. The first time that we get any history of any lesion which might be considered as involving the spine is four months before his entrance, when we have a history of pain in the back and pain through the abdomen. Such pain as that is not typical of anything, but two weeks before his entrance to the hospital he had numbness of both legs from the knee down. There we have something which is perfectly definite and which would point to some nerve disturbance.

I think that in conjunction with the sensation of heaviness in his legs, the loss of skin sensation and pain in the back on coughing and straining we must begin to consider some definite lesion involving the spine or spinal cord.

There is fairly good evidence of an infectious process involving the spine, apparently in this immediate instance related to the abscesses involving the teeth. Whether that infection is connected with the infection in the hand and in the vicinity of the prostate we do not know.

A small linear sear just beside the rectum would suggest a perirectal abscess I should think.

The temperature shows a very slight amount of febrile reaction, nothing that I should consider significant in view of the definite septic process going on in his mouth and in his spine.

The lumbar puncture shows a rise on jugular compression, but the rise is retained without dropping back for a time after removal of pressure on the jugulars and shows a slight fall after coughing. In other words we have here fairly definite evidence of a partial block. This

agrees with the total protein of 143 and I think also with the goldsol. I should not think the goldsol reaction was significant of anything except of increased protein from a partial block.

"Normal sensation over legs, thighs and trunk" is rather surprising in view of the fact that he complained of numbness. Numbness may, however, be purely subjective. "Abdominal reflexes absent" would point simply to cord compression. It is rather surprising to find no sensory change whatever in a patient who has so much change in his reflexes and difficulty in walking.

A few days after a lumbar puncture which gave evidence of partial block we have a puncture with very definite evidence of a quite complete block. We have again a lumbar fluid that shows very definite evidence of block with increased protein, higher even than it was at the first examination, and a total protein of thirteen in the cisterna magna.

Is there anything you would like to add, Dr. Fremont-Smith, concerning the examination of the fluid?

DR. FRANK FREMONT-SMITH: There is one point in regard to the first puncture that is of interest. As it reads in the record it looks as if the pressure had remained at 110 even after withdrawal of the first five cubic centimeters of fluid. What happened was, pressure was taken initially which registered 110. Then jugular compression was done and the pressure went to 460, and the note is made that it stayed at 460. In other words there was a partial block which Dr. Mixer called attention to, and on raising the cranial pressure fluid was forced by that partial block and we got a rise to 460. On release of jugular compression it remained at 460 because the partial block which had been forced open closed. Then on withdrawal of only five c.c. of fluid the pressure dropped to 110. But a fall from 460 to 110 with withdrawal of only five c.c. is significant, indicating that we have a small reservoir. Again on withdrawal of another five c.c. the pressure dropped to fifty. That is another large drop with withdrawal of a small amount of fluid. I think the goldsol reaction indicates only an abnormal fluid in the lumbar region as compared with a normal in the cistern.

DR. MIXER: Perhaps it would be well to say that lipiodol is an iodine containing oil which is heavier than cerebrospinal fluid and is only slightly irritating in the cerebrospinal space. On injection the patient is placed in the sitting position and it runs slowly down the canal passing to the bottom of the lumbar sac unless it reaches an obstruction in the spinal canal, when it stops more or less completely above such an obstruction, working by it very slowly and frequently giving a rather characteristic shadow which we have come to learn may mean different types of tumor. It is easy to understand that a fusiform swelling of the

cord itself with lipiodol falling down in the narrow spaces about such a swelling would give a different shadow from a rounded extra-medullary tumor which deflected the cord to one side. Here we should expect to have streaks of lipiodol coming down around the swelling. There we should expect to have a definite cap of lipiodol over a rounded tumor.

This is the X-ray of the spine without lipiodol, which is of comparatively little importance. The second plate shows the lipiodol in the spinal canal the day following its injection stopping in rather a curious irregular form at the fifth dorsal vertebra, very little getting by.

The use of lipiodol gives one a pretty definite level of the pathological process and its relation to the vertebrae. The closest level sign that we have had in this particular history previously was the fact that he had pain at the twelfth dorsal vertebra on coughing and also pain at the ensiform. The twelfth dorsal we had already thrown out as a level sign because we felt that the pain at the ensiform was more important, being higher. We always take the very highest level sign we have in cord tumor work. The ensiform is supplied by the seventh dorsal segment, and here we have our lipiodol shadow remaining at about the same level, the fifth dorsal vertebra, though changing somewhat in appearance at the end of forty-eight hours. The seventh dorsal segment and the fifth dorsal vertebra are at the same level.

#### X-RAY INTERPRETATION

The findings probably mean partial block at the region of the fourth and fifth dorsal vertebrae.

#### DR. MIXER'S PRE-OPERATIVE DIAGNOSIS

Tumor of the spinal cord.

#### PRE-OPERATIVE DIAGNOSIS

Tumor of spinal cord.

#### OPERATION

Under ether anesthesia the skin was incised down to the spinous process from the fourth to the tenth dorsal vertebra. Extra-dural tumor found which had eroded the laminae at the sixth dorsal level. Upper edge of tumor coincided with level as demonstrated by X-ray. Tumor dissected off with considerable difficulty. Dura opened. Some flattening of cord and thickening of arachnoid, otherwise normal. Rubber drain.

#### PATHOLOGICAL REPORT

Microscopic examination of fragments from the spine shows a chronic non-tuberculous inflammatory process composed of fibrous tissue rich in collagen and containing focal collections of wandering cells. Some of these focal areas contain small abscesses in their centers.



# FURTHER DISCUSSION

Extradural tumors causing compression of the spinal cord may and frequently do arise from the vertebrae. If so they are usually sarcomatous and apparently very variable in their rapidity of growth. We have occasionally met with a tumor (using the term in its widest sense) arising in the epidural space, apparently entirely of inflammatory origin. Just why an inflammatory condition in the epidural space should cause such a marked swelling and why such swelling should be so sharply localized I do not know. Such a condition is very difficult to differentiate in the gross and also rather difficult to differentiate microscopically I believe. At any rate, when one cuts down on such a tumor it is almost impossible to tell whether the lesion is inflammatory or is a sarcoma. My rule is always to take out all I can safely remove of such a lesion and trust that it is inflammatory rather than sarcomatous. The prognosis of course depends entirely on the microscopic examination, because the rapidly growing sarcomas are very fatal. It is a curious thing that the cord apparently does not regain its function nearly so well after having been compressed by a malignant tumor as when it has been compressed by a chronic inflammatory mass or by a non-malignant tumor. Why this should be I do not know. I know that it has occurred a good many times. It may be simply a coincidence.

Isn't this a rather extraordinary type of lesion to find as a chronic process within the spinal canal?

DR. RICHARDSON: Yes, it seems very strange. Was it spread out at all?

DR. MIXTER: It was spread out somewhat, but not more than the tumors are. It is a localized process to within four or five cm., five, I should say, at the greatest.

DR. RICHARDSON: It seems a curious thing. If it was tuberculosis or actinomycosis it would seem queer enough, but that just chronic inflammatory tissue should mass itself at that particular place seems rather strange.

DR. MIXTER: And yet we have had at least two such cases.—I think there were three.

DR. RICHARDSON: Had this invaded the bone at all?

DR. MIXTER: The bone was definitely eroded. That is the term I used because I thought it was malignant. Frankly, I thought it was sarcoma.

DR. FREMONT-SMITH: The first lumbar puncture showed ten cells and when we had the second it showed forty-one cells. I wonder if that would be of any help in suggesting a chronic inflammatory process.

DR. MIXTER: I think it certainly would be of help. We have, however, recently had the case of a man who was supposed to have tuberculosis of the spine with intraspinal abscess. If I

remember rightly, that patient also had a considerable increase in cells.

DR. FREMONT-SMITH: He had a slight increase in cells. He turned out to be sarcoma.

DR. RICHARDSON: Had this man any trouble with his bones anywhere else? Any joints, or any typhoid fever?

DR. MIXTER: There is no history of it. I do not know. It is fair to say that he definitely has had chronic sepsis. The operations which were performed at the other hospital were for the relief of ischiorectal abscess, and I believe for an acute prostatitis.

## DIAGNOSIS

Inflammatory tumor of the spinal cord.

## LATER NOTE

May 8, three months after the patient's discharge, his physician writes, "You will be interested to know that Mr. ——— has continued to improve ever since his return home. He now has perfect control of his bladder, and is able to push a chair from one room to another. I can see a slight improvement each week in his ability to walk. It looks as if he would in time regain the lost power of his legs.

"His case has been a very interesting one to me, and one quite unusual in my experience."

## CASE 11283

### SURGICAL DEPARTMENT

A Nova Scotian painter of fifty entered February 25 for relief of pain in the stomach, anorexia and loss of weight of twelve weeks' duration. His father and one brother died of heart trouble, his mother of growth in the stomach, one sister of tuberculosis, to which he was not exposed. Five children were living and well. Three others born later died in the first months of life from unknown causes. The patient had had gonorrhea several times, always adequately treated and without sequelae. For years he had had some tinnitus. Nine years before admission he fell twenty feet, breaking the pelvic bone, and was in bed for fourteen weeks. No deformity resulted except that the spine was slightly crooked at the base, but he remained somewhat handicapped. For six years he had had slight cough with a little white sputum. For five years he had had dyspnea and palpitation on exertion. Four years before admission he had some non-radiating precordial pain relieved by the belching of gas. After treatment for a "strained artery of the heart" the pain disappeared in three weeks. It had occasionally recurred. Twenty-nine years before admission he weighed 167 pounds, his best weight. His usual weight was 137 pounds, his weight three months before admission 135, his present weight 115.

Two years before admission he began to have dull gnawing pain in the left lower quadrant, apparently without relation to food, sometimes radiating to the right lower quadrant, relieved

became dizzy and fell off a ladder, without injury. Since that time he had been in bed. He then had intermittent pain slightly to the left of the site of the original pain, sharper, non-

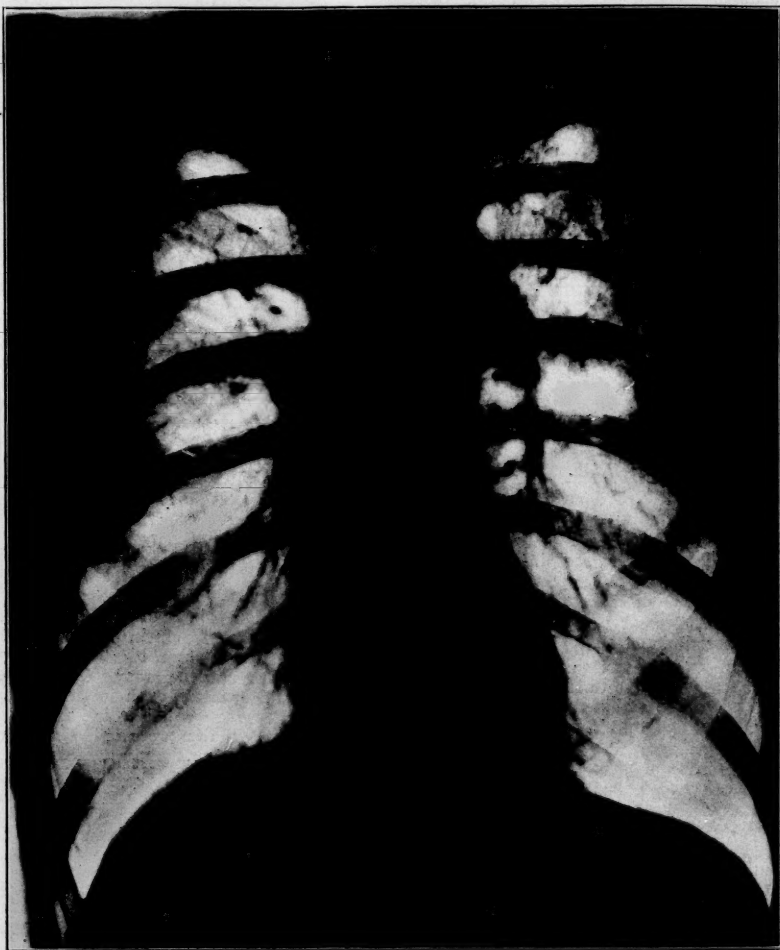


PLATE I. Shows the lung fields large and bright. The diaphragm is a little low, with no limitation in respiratory motion. The heart shadow is small, drop type. The hilus areas are moderately increased. The left upper chest is less radiant than the right, with thick mottled lung markings throughout this region and some changes apparently in the lung itself. No shadows are present suggesting metastatic malignant disease.

by saleratus and the belching of gas. It occurred only during the day. After its onset his appetite became poor. The November before admission the pain became more severe and he had attacks of dizziness. He was obliged to go to bed for three days. Then he went to work, but

radiating, sometimes waking him at night and requiring pills for sleep. It occurred at any time. It was not caused by any particular movement or position but was relieved by lying on the affected side and aggravated by lying on the other. After six weeks this disappeared. The

original dull pain had persisted unchanged. For some time he had had a feeling of fullness and desire to belch gas after meals. He had been growing weaker daily. His bowels had been constipated as long as he could remember.

Examination showed an emaciated, anemic looking man with dry skin. The teeth were decayed. There was extensive pyorrhea. There was a supraclavicular gland at the angle of the sternum the size of an acorn. The heart

(See diagram.) There was sustained patellar and ankle clonus.

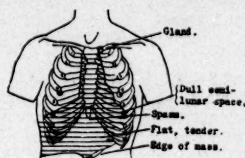


PLATE II. The stomach is low and atonic, containing a large retention of the motor meal at the end of twenty-four hours. There is slight deformity of the pyloric end. There is also dilatation of the second and third portions of the duodenum and apparent delay of the barium at the midportion of the third part of the duodenum.

showed no abnormalities except sounds of very poor quality. The blood pressure was 80/40. The abdomen was flat to percussion. There was resistance in the epigastrium. The edge of a hard mass was felt just above the umbilicus.

Before operation the temperature was 97.5° to 99.5°, the pulse 60 to 100, the respiration normal. The urine was cloudy at two of three examinations, alkaline at one, showed a very slight trace of albumin and a trace of bile at one, 2 to 4

leucocytes per high power field at two, specific gravity 1.025 to 1.028. The renal function was 20 to 30 per cent. The hemoglobin was 70 per cent., the leucocytes 8,600 to 7,400, the polynuclears 80 to 87 per cent. The red blood corpuscles were 4,080,000 to 3,800,000, with moderate achromia, at both of two examinations. A Wassermann was negative. The non-protein nitrogen was 24 mgm. The stools showed very strongly positive guaiac at the second of two examinations. X-ray February 26 showed the lung fields large and bright. The diaphragm was a little low, with no limitation in respiratory motion. The heart shadow was small, drop type. The left border was 8.7 cm., the right border 4.4, the length of the heart 13.9, the base 8.8, the great vessels 5.9, the chest 20.8. The hilus areas were moderately increased. The left upper chest was less radiant than the right, with thick mottled lung markings throughout this region and some changes apparently in the lung itself. No shadows were present suggesting metastatic malignant disease. The stomach was low and atonic, containing a large retention from the motor meal at the end of six hours, also a small retention at the end of twenty-four hours. There was tenderness over the entire gastric area. On palpation the barium seemed to leave the stomach freely and passed into the first portion of the duodenum, which was dilated. There was also dilatation of the second and third portions of the duodenum and apparent delay of the barium at the midportion of the third part of the duodenum. Reverse peristalsis was noted. There was slight deformity of the pyloric end of the stomach which seemed to change with different positions and was not characteristic of any particular lesion. The six hour meal had reached the terminal ileum and at the end of twenty-four hours the barium had reached only to the midportion of the transverse colon. A barium enema entered the rectum in the usual manner and passed without delay to the cecum. The various portions appeared normal in contour and freely movable. No filling defects were seen. The transverse colon looped low into the pelvis. There was no definite evidence of organic disease.

A surgical consultant found a hard irregular mass in the left epigastrium transmitting the pulsation of the aorta to the abdominal wall, and advised exploration, but with little hope of benefit. The visiting physician wrote, "The essential presenting feature is below the left costal margin, spasm of the rectus muscle. I believe I felt a sharp edge like the liver edge. There is certain dullness in the semilunar space suggesting an enlarged liver lobe. The presence of a small amount of fluid is also suggested. The soufflé over the mass persists. There was no expansile pulsation obtained. A mass around the aorta would explain. The rigidity of the lower back may have something to do with the post-

traumatic pelvis. The glands in the groin and the left supraclavicular region are interesting. . . ."

March 5 operation was done. The patient was in fair condition next day. He failed steadily. The trachea filled up with râles, obscuring the lung signs. The temperature rose to 102.5°, the pulse to 154. March 10 he was unconscious all day. That night he died.

## DISCUSSION

BY DR. EDWARD L. YOUNG, JR.

There was twenty pounds, approximately, of loss of weight in three months.

Of course the left lower quadrant is an unusual place to have a presenting symptom of pain. As a rule pain in the left lower quadrant is more common in the female due to pelvic conditions, after that to carcinoma of the sigmoid, left-sided appendix, ureteral stone, very rarely to malignant metastases in the iliac glands or occasionally due to a spinal metastasis with the nerve pressure and the pain from that. But of course we have to bear in mind what we have so often said, and that is that trouble at one point in the gastro-intestinal tract may have pain or symptoms referred to some other point. He has been in bed approximately for three months. There is no suggestion that this pain ever radiates to the kidney or has urinary symptoms with it, although that would not be entirely necessary. We should not expect a ureteral stone to continue to cause pain of this kind for two years without some other trouble coming in because of the spreading infection in the urinary tract.

The blood pressure, if accurately observed, means a considerable degree of loss of weight and strength. In other words, he has very little to go on.

The specific gravity of the urine is essentially normal, the leucocytes what we should expect with the previous gonorrheal attacks. Twenty to thirty per cent. of renal function I think is not lower than he is entitled to with his very poor general condition. The non-protein nitrogen is normal.

What does the "drop type" of heart shadow mean?

DR. JOHN D. CAMP: It is a small central type of heart. It has been called the ptotic type.

DR. YOUNG: But it does not mean anything special?

DR. CAMP: No.

DR. YOUNG: This picture is suggestive of malignant disease, because with a man coming in with this appearance, the loss of weight and the symptoms pointing toward the gastro-intestinal tract, the suggestion of malignant disease somewhere in the gastro-intestinal tract is very strong. Dr. Camp, would you care to demonstrate the X-ray plates?



DR. CAMP: The X-rays show the obstruction of the duodenum. The first (Plate II) shows very well the defect in the pyloric end of the stomach and also the first portion of the duodenum considerably dilated, also the second and a portion of the third. We have had four cases I think showing the same condition during the last year. Every one of these conditions has been definitely associated with some pathology in the pancreas. It is a point in diagnosis which is mentioned frequently in X-ray interpretations.

The defect in the stomach persisted throughout the examination, changing in character, and of course we were endeavoring to determine whether the condition was primary outside the stomach or primary in the stomach with involvement of the pancreas. That was difficult to do because the patient was so tender. So that although we did know that he had pathology here we could not determine just where it originated. The stomach is low, as has been described, and shows the dilatation.

The first film showed a rather fine mottling in one apex which we thought might be due to a tuberculous condition. We saw no evidence of congestion.

DR. YOUNG: Your suggestion would be that it was outside the stomach because it shifted.

DR. CAMP: That is what we tried to determine, but we could not be certain.

DR. YOUNG: It seems as though we were forced to make a diagnosis of malignant disease. We must remember that very early in malignant disease of the stomach a spreading of that growth can take place in the regional lymph glands or into the omentum, so that actually the growth felt is in the mass outside the stomach. It may well be that the primary condition here was in the stomach and the mass outside was the mass felt, and the difficulty is due to the fact that there are swollen tender glands outside rather than inside. The story certainly suggests trouble in the gastro-intestinal tract itself, that is in the stomach, with the spreading of the disease outside. On the other hand, of course, the pain in the left lower quadrant, if we were going to hitch it to this, would be better explained by the growth of the mass of malignant disease making pressure outside, along the aorta and great vessels, rather than in the stomach and only in the immediate neighborhood.

I think that any way we want to put it there is very little hope for a cure. The only reason for operating on a patient of this type is because we never can be sure until we actually have the abdomen open whether there is a condition which is curable or not, and even in one case in a hundred a cure justifies the other ninety-nine to which no help has been given.

#### X-RAY INTERPRETATION

The appearance in the chest is that of an old tuberculous infection.

The retention in the stomach and the dilatation and reverse peristalsis in the duodenum represent an obstruction. Such a picture might be produced by an extragastric lesion with pressure of adhesions. The deformity in the pyloric end of the stomach may represent pathology at this point, although it is not characteristic and may be due to extrinsic pathology. It is impossible to make a definite diagnosis in this case.

#### DR. YOUNG'S PRE-OPERATIVE DIAGNOSIS

Malignant disease, probably primary in the stomach.

#### PRE-OPERATIVE DIAGNOSIS

Carcinoma, inoperable, (1) of the terminal duodenum, (2) of the pancreas, (3) of the colon.

#### OPERATION

Gas and ether. Left rectus incision. The mass palpable to the left of the median line in the epigastrium was retroperitoneal, obviously carcinoma, with numerous metastases in the surrounding glands. It had pushed the stomach forward and was infiltrating its posterior wall and also had infiltrated the mesentery of the transverse colon. The stomach was slightly, the duodenum considerably dilated. On account of the extent of the growth it did not seem that a palliative duodenojejunostomy was advisable. The wound was closed without drainage.

#### FURTHER DISCUSSION

This does not give us anything more than the obvious presence of trouble in the stomach and the primary growth retroperitoneal.

He died, as would be expected. The interesting thing is to see whether Dr. Richardson will show us a primary focus of trouble anywhere else than in the retroperitoneal region.

#### CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Carcinoma of the pancreas.  
Hypostatic pneumonia.

#### DR. EDWARD L. YOUNG'S DIAGNOSIS

Carcinoma of the stomach with metastases in the retroperitoneal glands.

#### ANATOMICAL DIAGNOSIS

##### 1. Primary fatal lesion

Carcinoma of the stomach extending into the pancreas with metastases in the retroperitoneal and mediastinal lymph nodes.

##### 2. Secondary or terminal lesions

Purulent bronchitis.  
Focal pneumonia, lower lobes of the lungs.  
Abscesses of the lungs.  
Purulent pleuritis.  
Edema of the lungs.  
Acute pericarditis.  
Soft spleen.

3. *Historical landmarks*

Operation wounds.

Slight chronic pleuritis.

Foci of obsolete tuberculosis, apices of the lungs and lower lobe of right lung.

Slightly defective closure of the foramen ovale.

DR. RICHARDSON: The stomach was rather small. At a point about five cm. above the pylorus there was an area seven by five centimeters the margins of which were rounded, a little irregular and descended to a slightly irregular base. That was a loss of substance in the region of a new-growth in the stomach wall. From that point and extending through the retroperitoneal tissues along the stomach wall and all along the pancreas the organs were ensheathed by dense grayish tissue in which here and there enlarged new-growth infiltrated glands were made out. Further examination showed it to be a cancer of the stomach extending into the pancreas and into the glands. There was some invasion of the bronchial glands, and along the region of the arch of the aorta and upper part of the descending thoracic portion several of these enlarged mediastinal glands were seen, a rather odd location.

There were no metastases in the liver. The gall-bladder was small and the bile rather thick, but other than for that the gall-bladder and ducts were negative. The pancreas showed of course the invading new-growth tissue, was rather small, and there was a small amount of chronic pancreatitis.

In association with these conditions there was a purulent bronchitis, focal pneumonia of the lower lobes of the lungs, a few abscesses, and an acute pericarditis.

DR. YOUNG: It was presumably primary in the stomach?

DR. RICHARDSON: It is so recorded.

#### IS MENTAL DISEASE ON THE INCREASE AND, IF SO, TO WHAT EXTENT?

To determine whether or not mental disease is on the increase, we should take into account not only those persons who are cared for in hospitals for mental disease, but also persons with mental disease in the community and in other institutions, such as almshouses and penal and reformatory institutions. In the absence of community data and with incomplete data for other institutions, we can use the censuses of hospitals for mental disease as an index, with certain limitations.

The Federal Census Bureau has made eight enumerations of persons suffering from mental disease. The first such census was taken in 1850, and the latest one in 1923. The first five such

studies were made in connection with the census of the general population in the decennial years from 1850 to 1890. In each of these an attempt was made to include the insane in the general population as well as those in institutions. The first three were considered to be seriously deficient. In 1880, there were 37,432 insane enumerated in institutions for their care, or 97.1 per 100,000 of the general population; in 1910, 187,791, or 204.2 per 100,000; and in 1923, 267,617, or 241.8 per 100,000. These data include only resident patients in institutions for mental disease. One would expect a comparison on this basis to show a considerable increase on account of the accumulation of cases in the hospitals. Then, too, it is highly probable that a larger proportion of the insane are in hospitals for their care now than formerly.

A better method for measuring the increase of mental disease would be a comparison of the number of first admissions. Unfortunately, the recent Federal census is the only one in which first admissions are separated from the others. During the year 1922, there were 73,063 persons who entered hospitals for mental disease for the first time. The census of 1910 did not separate first admissions, readmissions, and transfers, but the total admissions of that year were more than 33,000 less than the total admissions for 1922.

From the above data, it will be seen that mental disease is increasing, but it is impossible to give even a general estimate of the extent of this increase.

#### LOCKJAW OR TETANUS, USUALLY A FATAL DISEASE

WITH the coming of vacations and warm weather the opportunity is given to barefoot boys and other people to get wounds of one kind or another through which tetanus or lockjaw infections gain entrance into the human body. In addition, the approaching Fourth of July usually is accompanied by a certain number of lockjaw or tetanus cases following infections received from firearms, crackers and other objects that produce deep wounds.

The record of tetanus or lockjaw in Connecticut for the past four years is as follows:

Year	Cases	Deaths
1921	22	18
1922	28	18
1923	21	21
1924	21	19

TETANUS CAN BE EASILY PREVENTED, BUT IS MORE DIFFICULT TO CURE

Of the 42 cases during the past two years, 5 were reported from January to May, but during the months of June, July, August and September 23 cases were reported and for the period August to December, 14 cases.—*Connecticut State Department of Health.*

# THE BOSTON Medical and Surgical Journal

Established in 1828

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## IS "ORGANIZED MEDICINE" BAD?

UNDER the caption "Organized Medicine," the Revere Budget of June 6th publishes an editorial attack upon the American Medical Association. Starting with the premise that "the body politic of the medical profession is not as strong, vigorous and healthy as it might be" (what body is?) the writer alleges the decline of independent medical journalism, the increase of medical quackery and decrease in percentage of "real doctors," the lack of family practitioners and the increase of specialists, and the high cost of medical education. He concludes that "organized medicine has caused many, and cured none, of these dangers" . . . and asks "Will not the man in the street, and the busy unaffiliated doctor, doubt still more the desirability of a great central organization in Chicago, and hesitate to support local State societies subservient to national dictation and direction?"

This editorial, well written and evidently inspired by some one conversant with the medical situation yet thoroughly opposed to the existing order, is difficult to answer because of the half-truths which it contains. Most of the conditions which it deprecates do exist, at least to a degree, but to lay the blame upon the American Medical Association is unfair. No individual institution has done more to put down quack-

ery than the Association. The temporary decrease in the number of medical students was due in part to the campaign carried on by the A. M. A. against inferior schools, in part to the demands of the war. The number of medical students is now increasing at the rate of 1000 a year, in spite of higher requirements; by 1927 the increase will have equalled the decrease during the years 1906-1922. The increase in the cost of medical education may be attributed in part to better teaching, but is largely due to the depreciation of the dollar which has taken place since the war.

Another criticism concerns the action of the House of Delegates of the American Medical Association in adopting the resolution on certain provisions of the Volstead Act and acts amendatory thereto prohibiting, without exception or qualification, physicians from prescribing more than one pint of spirituous liquor to any patient in ten days. This resolution, as we understand it, was passed as a protest against the Government's action in dictating to physicians the amount of a drug which they may prescribe, and is not intended to secure for physicians "full rights to provide unlimited quantities of whiskey, brandy and rum," as is stated in the editorial under discussion.

The writer has apparently picked out the most obvious faults of modern medicine and laid them all at the door of the national association. Not one word has he said in regard to the advantages of organization or to the achievements of the American Medical Association. We human beings are prone to do just this, without considering what the situation would be if the object of our criticism did not exist. A central organization for the medical profession is a necessity. If the American Medical Association were abolished, the first act of the State societies would be to elect delegates to a general assembly, and presently another national association would come into being. The influence of the present association may not always work for what you or I think is best, but we have delegates to the governing body, and the other delegates represent people like us. The machinery of government necessarily has to be run by the permanent officials, but it is absurd to believe that a handful of men in Chicago could dominate the House of Delegates, even if such were their desire. Honest criticism of specific acts of the Association is proper, but wholesale condemnation is unfair to the many sincere and conscientious men who give their time and thought to this department of medicine.

## FEE SPLITTING

A COMMUNICATION from a man who, according to the recital of his training and experience, is a qualified specialist, appears in the *Journal of the Indiana State Medical Association*\* and

\*Vol. XVIII, No. 6, p. 241.

sets forth that even capable men may not succeed in practice unless willing to split fees. He quotes the experience of other men who have been unsuccessful for the same reason; one, for example, who had been prepared for his work in the Mayo Clinic but who had to retire from special work because he declined to split fees.

The writer affirms that "the wealthiest and busiest surgeons and specialists are surrounded with an odor of fee splitting." In an editorial in the same journal it is conceded that the practice exists.

Here in Massachusetts little is said about evidence tending to show that this practice exists. Without the smoke of suspicion it may be that there is very little, if any, fire. It has often been asserted that fee splitting is more common in the middle west than in other sections of this country. A few years ago appeal was made to the American College of Surgeons to take steps to abolish the practice. The statement published by the Board of Regents indicated a desire to apply corrective measures but indicated inability to secure the required evidence. It is obvious that there are difficulties in the way. No one would voluntarily confess to being a party to this practice but if any powerful organization like a State Society or the College of Surgeons felt moved to make an investigation, the employment of an expert detective would probably get results.

Either the medical organizations are not very deeply concerned or they do not feel warranted in spending money to get the required evidence. It may be that other matters seem to be more important, but to those who have suffered most and are unwilling to sell their honor the subject is almost vital.

It is most unfortunate that the laity have any occasion to question the integrity of physicians and it would seem that a definite responsibility rests with organized medicine to show its disapproval of corrupt practices by taking on the job of investigating statements wherever there are abundant reasons for believing that they are founded on fact.

#### TWENTY-FIVE YEARS OF CERTIFIED MILK

On June 25 the Walker-Gordon Laboratory Company was host to a number of pediatricians and health workers at its farm at Charles River Village. The event marked a quarter century of development of the clean milk industry, and was of unusual interest, as among the speakers were Dr. Theobald Smith, now head of animal pathology in the Rockefeller Institute; Dr. Harris Moak, president of the American Association of Medical Milk Commissions; Dr. John Lovett Morse, Dr. Kenneth D. Blackfan, professor of Pediatrics at the Harvard Medical School and president of the New England Pediatric Society; and Dr. W. P. Northrup, consulting pediat-

rician of the Presbyterian Hospital in New York.

In his address Dr. Theobald Smith, the discoverer of the bovine tubercle bacillus, who always speaks with authority, tended to minimize the importance of the cow as a carrier of diseases to man. Nevertheless he warned that his statement was not made to lessen our precaution with reference to bovine diseases.

A letter was read from Dr. William H. Park, head of the bureau of laboratories of the New York City department of health, stating that in twenty-five years his bureau had been unable to trace any case of communicable disease in human beings to certified milk. If so this record has been remarkable, and many other communities have been unable to duplicate it.

The trend of the meeting, of course, was to popularize the use of certified milk. The production of certified milk has been of immense benefit to the country as a whole in that it has directed attention to certain dangers inherent to careless milk production and has shown how many of these dangers could be eliminated. Pasteurization of milk has been perhaps the greatest boon to the industry but it has been necessary to go back of pasteurization and assure a decently clean milk to start with. Certification has demonstrated the methods by which a decently clean milk could be assured.

No matter how carefully produced, a raw milk carries with it a certain element of danger to the consumer—particularly the infant consumer—that is not present in a carefully produced milk that is partially sterilized by pasteurization or entirely so by boiling.

#### MISCELLANY

##### MATERNITY BENEFIT IN AUSTRALIA

DURING the first eleven years of the operation of the *Commonwealth Maternity Allowance Act* nearly seven and three-quarter million pounds sterling was paid to mothers in Australia as the five-pound baby bonus. Practically every woman who has had a viable child since July 1, 1913, has claimed the bonus. Many have claimed it unjustly and an attempt has been made to detect these false applications. Each year a certain number of claims are refused. The Royal Commissioners in their report on national health insurance call attention to the fact that the puerperal mortality and the infantile mortality have remained practically undiminished between 1905 and 1924. The former is given as 5.1 per thousand registered births; the latter is given as 60.5 per thousand births. It is true that there has been a reduction in infantile deaths since 1905 from 81.8 per thousand births, but the deaths of infants under one year of age has not changed. The commissioners also point out that in 1913-1914



64% of the mothers were attended by medical practitioners and in 1923-1924 79% of the mothers had the help of doctors. In spite of the material increase in the frequency of attendance by trained medical practitioners, the puerperal mortality has not diminished. There is no information concerning the number of babies born dead, but the number born alive, who did not survive their first birthday, has remained uninfluenced by the increased medical attendance. At first sight these facts would appear to indicate that medical practitioners have failed in the discharge of a responsible duty. Further inquiry, however, brings to light some important and relevant events. In the first place attendance by a medical practitioner is recorded when the practitioner is called in after a midwife or untrained woman has got into difficulties and possibly infected the woman. In the next place medical practitioners are frequently called upon to give the attendance in an environment and under circumstances which are wholly unsuited for safe obstetrics. Lastly it avails but little if skilled medical attendance is given at the time of the confinement to a woman whose physical condition demanded medical care earlier in the pregnancy. Antenatal supervision is not given to the majority of the women of Australia.

That the maternity bonus has failed in its objective is a contention that has been made very many times in these columns.—*Extract from an Editorial in The Medical Journal of Australia, Saturday, May 9, 1925.*

#### NOTED CHEMISTS WILL GIVE AID TO HOOVER

##### COMMITTEE NAMED TO HELP MAP PROGRAM FOR BENEFIT OF INDUSTRY

THE appointment of an advisory committee composed of outstanding members of the chemical industry to cooperate with the Department of Commerce has been announced by Secretary Hoover.

The purpose of this committee is to assist the chemical division of the department in mapping out a program of work which will be of the most practical and immediate benefit to the industry.

The membership of the committee, as announced by Secretary Hoover, includes Dr. Leo Bakeland, president, American Chemical Society and inventor of bakelite; Dr. A. S. Burdick, president of the Abbott Laboratories of Chicago, and formerly president of the American Drug Manufacturers' Association; Dr. H. E. Howe, editor of the *Journal of Industrial and Engineering Chemistry*; Dr. Charles H. Herty, president of the Synthetic Organic Chemical Manufacturers' Association; Henry Howard, chairman of the board of governors of the Manufacturing Chemists' Association; G. Ober,

president of G. Ober & Sons, Baltimore, and past president of the National Fertilizer Association; E. G. Trigg, president of John Lucas & Co., Philadelphia, and president of the Agricultural Insecticide and Fungicide Association; A. Cressy Morrison, president of the Acetylene Gas Manufacturers' Association, and S. W. Wilder, secretary of the Manufacturing Chemists' Association.

#### WEST VIRGINIA HAS INJUNCTION AND ABATEMENT LAW

THE West Virginia State Department of Health is making plans for the enforcement of the Injunction and Abatement Law enacted by the State legislature and effective July 15. The law provides for the closing as a nuisance of any place used for purposes of prostitution, as signation, or lewdness. A suit in equity may be brought by the attorney general of the State or the prosecuting attorney of the county wherein the nuisance exists. Should public officials fail to enforce the law, a private citizen, resident, or taxpayer may bring in the name of the State a suit in equity to close by injunction a house of prostitution, or one used for purposes of assignation, or lewdness. The law permits the abatement of such a nuisance and perpetually enjoining any person from further maintenance thereof.

According to the United States Public Health Service, there are still ten States without legislation for this purpose. Texas has a law without the abatement feature; the New Jersey law was declared unconstitutional in 1919; and the Maryland law became ineffective two years after the World War.—*United States Public Health Service.*

#### SMALLPOX: A PROGRESS REPORT WITH COMMENTS

DR. LOUIS I. HARRIS, Director of the New York Bureau of Preventable Diseases, has forwarded the following report which emphasizes the value of vaccination:

During the past two decades, practically, smallpox has been so rare in the City of New York, that scarcely any of the physicians, who have entered upon the practice of medicine in this community during the past generation, have seen a case. While we are naturally greatly elated by such a happy state of affairs, it is timely, however, to urge caution on the part of all physicians, especially in cases of *chickenpox in adults*.

The diagnosis of smallpox, as has been pointed out on numerous occasions, is not an easy matter, and physicians are therefore urged not to assume the grave responsibility of acquitting a case in an adult with the diagnosis of chickenpox until they call upon the expert diagnosticians of the Department of Health to assist them.

A case in point is one where, recently, a physician practicing for a number of years in this city, saw a patient whose condition he diagnosed as chickenpox. In consequence of this diagnosis, the usual smallpox precautions were omitted, and, as a result, out of the eleven cases of smallpox reported in this city since the first of the year, eight secondary cases occurred among individuals exposed to the patient who was mistakenly thought to be suffering from chickenpox.

If it had not been for this very unfortunate error in diagnosis we would have had but four cases of smallpox all told, in this city, during the current year.

In connection with this case of unrecognized smallpox, an exceedingly interesting history is given by one of the first of the group of secondary cases. The patient, a very intelligent man, informed us that he started out to visit the unrecognized primary case. Upon arriving at the apartment, he knocked at the door and was bidden to enter. He opened the door and while standing on the threshold noticed that the patient's face showed a marked eruption of "pimples." Her appearance was so striking that he felt very ill at ease, and making his apologies for not entering, he left forthwith. He was at all times at a distance of a number of feet from the patient, except that he touched the door-knob which the patient may perchance have handled, but had no direct contact whatever with the patient. Yet, two weeks later he was down with smallpox.

It is interesting to note, that of the eleven cases of smallpox which have occurred in this city since the first of the year, six had never been vaccinated before; one had never been successfully vaccinated; two individuals—one thirty-eight years, and the other forty years of age, had been vaccinated in early childhood; and the remaining two gave a history of having been vaccinated at some time in the past, but there was no evidence of a scar.

#### NEW YORK'S DEATH RATE

CANCER GAINS, AND THERE IS MORE DIABETES  
HERE, SAYS DR. NICOLL

In a statement issued recently Dr. Matthias Nicoll, Jr., State Commissioner of Health, said that the statistical report for March shows that the people of New York State have been enjoying good health for the third successive month of 1925. According to the Commissioner, although the birth rate was slightly lower than the March average, the excess of births over deaths was 6,545—one of the greatest natural increases of population for that month in the last forty years.

Dr. Nicoll stated that there were in the State 13.58 deaths, giving a death rate of 14.6 per 1,000 population, except for 1921 the lowest

March record since 1885. The reduction from last year's figures was largely due to a diminished mortality from diphtheria, measles, pneumonia, scarlet fever, tuberculosis and whooping cough. On the other hand there has been a continued rise in the deaths from cancer in the entire State and from diabetes in New York City.—*New York Times*.

#### A TWENTY MILLION DOLLAR DRIVE

PLANS for a drive to secure twenty million dollars for an endowment and building program for The New York Medical College and Flower Hospital were made public at the closing session of the American Institute of Homeopathy. It is expected that the twenty thousand homeopathic physicians throughout the country will solicit funds.

The *New York Times* has published the details relating to the plans as follows:

The main feature of the building program is the construction of a twelve-story college building for \$600,000. In time, according to the plans, the buildings will be twenty-five stories high. The new college building will accommodate 600 students, compared with 190 now. The Faculty will be enlarged correspondingly.

The immediate goal, it was said, will be to raise \$10,000,000, the remaining \$10,000,000 to be raised during the next ten years.

The plan also calls for a new ward building to cost \$350,000, a dispensary and employes' building, \$350,000; a nurses' home, \$300,000, and \$350,000 for more laboratories. For every student an endowment of \$1,200 will be sought. More than \$7,000,000 will be necessary for this purpose.

Dr. Claud A. Burrett of Rochester heads the committee to work out plans for expanding the local institution. With him are Dr. C. A. Harkness of Chicago, Dr. Ruel Benson of New York, Dr. Conrad Wesselhoeft, Boston, and William M. Baldwin, New York.

#### A MEMORIAL TO WILLIAM MACEWEN

In Glasgow a committee has been formed for the purpose of erecting a memorial to this eminent surgeon. A bust of Sir William is to adorn the university of Glasgow and a replica is to be presented to Lady Macewen. A memorial lectureship is to be endowed and a medal or prize in surgery is to be awarded each year.

The committee will try to raise three thousand pounds to establish this memorial and contributions will be solicited throughout the British empire.

#### A CHALLENGE

DR. R. A. LYSTER has issued a challenge to anti-vaccinationists. He offers to have twenty-four efficiently vaccinated men from St. Bartholomew's Hospital Medical School

placed in contact with a case of smallpox if the anti-vaccinationists will arrange for a like number of unvaccinated persons to subject themselves to the same contact. Dr. Lyster feels that this will be a demonstration which will settle the question of the efficacy of vaccination.

## THE BRITISH AND AMERICAN MEDICAL UNION

SIR ARBUTHNOT LANE, presiding at a luncheon given by the English-Speaking Union to welcome the American and Canadian doctors at the Hyde Park Hotel recently, remarked that medical men had far more freedom of expression on medical matters in America than in England. In almost every American newspaper one might see medical questions freely and boldly discussed by doctors. If a doctor were to do that in England he would have the Ethical Medical Committee of the British Medical Association down upon him at once. It was as if this Committee were to say, "What business has a doctor to educate the public? The public have no business to be educated and should be left to their fate." The matter was in the hands of the public. They should insist upon hearing the truth; and upon men, who could speak best about health matters, being allowed to do so without receiving rude and insulting letters from the Ethical Medical Committee. It was a perfectly absurd position. The medical profession was at fault in putting up with it. Doctors should stand up against it.

Proposing "Our Guests," Sir Arbuthnot Lane said that personally he did not think it was necessary to seek to establish any formal union between the English-speaking peoples on both sides of the Atlantic, for they were already one in spirit. A few weeks after the outbreak of the late war the medical men of America were over here, sharing the troubles, anxieties, and dangers of their British brethren. They did not wait for America to declare war. They declared war themselves and came across both singly and in battalions. Sir Alfred Keogh took them into the Army Medical Service. Sir Alfred Keogh ran the medical service splendidly. If anyone made a mistake during the war it was not Sir Alfred Keogh. Yet he was allowed to retire into private life without a reward or distinction or recompense of any kind. That was always the way with the medical profession. They did their work nobly, never expected any recompense, and they did not get it.—*The Medical Press and Circular*.

## VACCINATION IN AMERICAN COLLEGES

A SURVEY conducted by Dr. Robert T. Legge, Professor of Hygiene at the University of California, shows that twenty-five universities

and colleges in the United States require evidence of successful vaccination of entering students and twenty-five do not. Three colleges acknowledged having had serious epidemics of smallpox in the last decade. In fourteen colleges in this ten-year period there were 146 cases.

Massachusetts and New York colleges had had no cases of smallpox in this period. The University of California adopted the vaccination requirement in 1907 and no smallpox cases have developed since that time in this institution.

## RECENT DEATHS

**SPOONER**—LESLEY HINCKLEY SPOONER died at Brookline, June 28, 1925, aged 44.

**SPAETH**—DR. REYNOLD ALBRECHT SPAETH, noted physiologist, died June 26, aet. 38, at Bangkok, Siam. He made a study of the monkey and had won scholastic honors in this country by his writings on allied subjects. His death was ascribed to septicaemia.

Late last summer Dr. Spaeth accepted a call from the Rockefeller Foundation to assist in the reorganization of the University of Bangkok Medical School, according to Dr. William H. Howell, head of the School of Hygiene and Public Health at Johns Hopkins University, where Dr. Spaeth had been Associate Professor of Physiological Research.

At the time of his death he was engaged in an exhaustive study of reproduction among monkeys and its bearing on reproduction among mankind. He also was commissioned by the National Research Council to make extensive study of the monkey in Siam. In 1913 he won the Walker prize of the Boston Society of Natural History.

Dr. Spaeth was born in Philadelphia, was educated at Haverford College and Harvard University—where he was given the S.B. in 1909, the Ph.D. in biology in 1913, and A.M. in 1911—and taught at Clark College, Yale University and Woods Hole, Mass. He was Sheldon Fellow of the Physiological Institute at Kiel, Germany, and Naples, Italy, in 1913 and 1914. A brother, Dr. J. Duncan Spaeth, is a professor at Princeton University. He is survived by his wife, who was Miss Edith Eleanor Taussig of Yonkers, N. Y., and two small children.

## CORRESPONDENCE

### LONDON LETTER

(From Our Own Correspondent)

#### FESTIVAL DINNER OF THE INFANTS' HOSPITAL, LONDON

The festival dinner of the Infants' Hospital, Vincent Square, London, was held on the evening of May 14 last, by permission of the Corporation, in the Guildhall of London, under the presidency of Prince Henry, the King's third son.

In proposing the prosperity of the hospital the Prince said in part that the hospital was the first of its kind to be established in Europe, and he asked for a sum of £25,000, which was required for further expansion of work whose objects included the placing on a scientific basis the management of infants up to five years of age, the treatment of nutritional diseases, and the investigation of the cause of infantile mortality. He pointed out that some 40 per cent. of the infantile mortality in Great Britain is preventable and that prevention largely depends upon diet.

Mr. J. Gomer Berry, to whose exertions the growing prosperity of the hospital is, to a large extent, due, spoke of the attraction it exercised for patients in all parts of the country, and of the value of its researches, which were placed at the disposal of every doctor. He announced the gift from the Prudential Assurance Company of £1,000 for the cost of an X-ray installation, accompanied by a promise to maintain five beds.

Lord Birkenhead, in proposing the medical and nursing staff of the Infants' Hospital, made a characteristically eloquent and witty speech in which he laid stress on the point that the nation was not in a good position and that its future was not encouraging, and therefore he strongly advocated the movement which the hospital represented as reflecting exactly the growth of our national responsibility for the physical welfare of the country.

Dr. Eric Pritchard, the medical director, under whose zealous and fostering care the institution has made so great advance during recent years, replied for the staff. He paid a well-deserved tribute to Mr. Robert Mond, the founder of the hospital, and stated that doctors and nurses alike were inspired with the ambition of making the Infants' Hospital the greatest institution for the relief and care of suffering infants in the Empire. He pointed out that they were anxious to realize to the full the unique opportunities which their research laboratories and clinical material afforded for the making of discoveries which would cure some of prevalent ills of children. A happy discovery made in their research laboratories might be instrumental in saving thousands of lives and also in the saving of vast sums which were spent annually in the curing of diseases which might be avoided. Dr. Pritchard went on to say that he claimed to have made a practical discovery, which, if not exactly coming within the category of the results of scientific research, was, he believed, the first step in this direction. The discovery to which he referred was that of Mr. Gomer Berry, who was "facile princeps" among hospital chairmen of London. By his unparalleled exertions they were reaching a financial position from which they would be able to wage a successful war against the enemies of health and the agents of disease.

The festival banquet from the attendance and monetary point of view was a conspicuous success. There were more than 300 guests and it was announced that the donations had reached £15,000, about one-third of which sum was represented by the endowment of nine cots. A considerable further sum has been received, the gifts at the time of writing amounting in all to £20,000, and doubtless the total sum required will be quickly obtained.

#### THE MIDDLESEX HOSPITAL

The Middlesex Hospital, situated in the midst of crowded London and which has stood for 150 years, is now showing signs of fast approaching decay. Unlike, perhaps, the majority of London hospitals, the Middlesex does not occupy its own site, but is held at a nominal rent through the generosity of the Berners' family. Thus there is no question of selling the site for a large sum and building another hospital on the outskirts. The board of governors have come to the decision that the only solution possible is the entire rebuilding of the hospital on its present site at a cost of £500,000. There are other and strong reasons for this decision, one of which is that the district which the hospital serves contains a million and a half working population. Another excellent reason is that around the present buildings are grouped the modern, up-to-date, and world-wide known cancer wing, the research departments, the splendid Bland Sutton Laboratories and the well equipped medical school. There is room for the necessary buildings.

On May 11 last a meeting to discuss the whole

question of rebuilding was held under the presidency of Prince Arthur of Connaught, and the decision of the hospital board to rebuild the hospital and launch an immediate appeal for £500,000 was endorsed. A preliminary list of donations totalling nearly £40,000 has been subscribed.

During the rebuilding of the institution the old infirmary buildings in Cleveland Street will be utilized and as far as is possible the work of the hospital will be carried on without curtailment.

Among those who addressed the meeting was Sir John Bland Sutton, president of the Royal College of Surgeons, who has been intimately connected with the hospital for many years and has done so much for the institution. Sir John Bland Sutton said that though in the new building it might not be possible to incorporate much of the old hospital, it would be possible to incorporate the wonderful spirit of the old founders, and emulate the sympathy for the sick and suffering which was the dominant feature of the men and women whose humanity led them to build the hospital.

#### RESIGNATION OF SIR JOHN MACALISTER AS SECRETARY OF THE ROYAL SOCIETY OF MEDICINE

Sir John MacAlister, secretary of the Royal Society of Medicine, has been compelled to retire on account of ill-health. Sir John MacAlister was really the founder of the Royal Society of Medicine, and it was due to his energy and tact that some of the older societies were amalgamated and housed in the splendid building erected for the purpose at 1 Wimpole Street, London. The founding of the Royal Society of Medicine and the building of its house will remain as an enduring monument to Sir John MacAlister.

#### MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

##### DISEASES REPORTED FOR THE WEEK ENDING JUNE 27, 1925

Actinomycosis	1	Ophthalmia neonatorum	16
Anterior poliomyelitis	1	Pneumonia, lobar	33
Chickenpox	75	Scarlet fever	96
Diphtheria	79	Syphilis	39
Dog-bite requiring anti-rabic treatment		Suppurative conjunctivitis	10
Epidemic cerebrospinal meningitis	5	Tetanus	2
German measles		Trachoma	1
Gonorrhea	71	Tuberculosis, pulmonary	115
Influenza	144	Tuberculosis, other forms	24
Malaria	4	Tuberculosis, hilum	61
Measles	2	Typhoid fever	7
Mumps	533	Whooping cough	116
	37		

#### NEWS ITEMS

GIVES DATA ON TYPHOID—CITY HEALTH DEPARTMENT LAYS RECENT OUTBREAK TO SHELLFISH—Pamphlets which contain an official report on the recent typhoid fever outbreak in New York City, submitted to Commissioner Frank J. Monaghan by Dr. Louis I. Harris, and which are being mailed to physicians throughout the city and to welfare and health societies in the five boroughs, contain data and detail on the findings of the department after careful study since the cessation of the epidemic last winter.

A large part of the report is directed to showing that the outbreak, except for certain sporadic cases, was due to shellfish. Seventy-eight per cent. of the



cases above normal are said to have been due to this cause.

Another point brought out in the report is that, contrary to general belief that persons more than 45 years old need have little fear of contracting the disease, persons beyond that age are decidedly liable to the contagion. Dr. Harris' report shows that 10 per cent. of the 914 cases found in the outbreak last winter occurred among people more than 45 years old.

The milk supply in New York City, for a time thought to be partly involved as a source of infection, is completely absolved in the report.—*New York Times*.

**DR. BEST GOES ABROAD**—Dr. C. H. Best, who was associated with Dr. Banting in the study of insulin, plans to leave Toronto in July for a visit in Europe, where he will spend a year in research.

**AMERICAN DOCTORS IN FRANCE**—After leaving England the members of the Interstate Post-Graduate Assembly went to Paris and were tendered a reception at the Hotel de Ville.

Dr. Charles Mayo told the audience that Louis Pasteur paid France's debts after the War of 1870. Pasteur's fight against disease paid a thousand times the five billion gold francs Germany exacted. "No estimate ever can be put on the work of that man," Dr. Mayo concluded.

Several other receptions presided over by eminent Frenchmen were tendered to the visitors.

Dr. Mayo conferred honorary membership in the American Medical Association upon Mme. Curie, Director Roux of the Pasteur Institute, and other eminent French professors and physicians.

**UTICA, NEW YORK**, is to have an academy of medicine which will be independent of existing organizations.

#### STANDARDIZATION OF HEALTH DEPARTMENTS

A conference was held at the State House, Boston, June 30, for the purpose of standardizing the work of city health departments. Dr. F. G. Curtis, of the Newton Health Department, presided. Dr. Eugene R. Kelley, of the Massachusetts Department of Public Health, and Dr. C. E. A. Winslow, chairman of the committee of the American Public Health Association, with others, addressed the conference.

#### NOTICE

##### UNITED STATES CIVIL SERVICE EXAMINATION

The United States Civil Service Commission announces the following open competitive examination:

###### Graduate Nurse

###### Graduate Nurse (Visiting Duty)

Applications for graduate nurse and graduate nurse (visiting duty) will be rated as received until December 30, 1925. The examinations are to fill vacancies in the United States Veterans' Bureau and in the Indian and Public Health Services.

The usual entrance salaries for these positions are \$1500 a year with quarters, heat and light, in the Indian Service; \$1020 a year with quarters, subsistence and laundry, in the Public Health Service; and \$1680 a year in the Veterans' Bureau.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the Board of United States Civil Service Examiners at the postoffice or custom house in any city.

#### REPORTS AND NOTICES OF MEETINGS\*

##### WACHUSETT MEDICAL IMPROVEMENT SOCIETY

THE last regular meeting of the Wachusett Medical Improvement Society was held at Holden District Hospital on June 3rd. The program of the evening was on Urology. Dr. C. H. Ricker read a paper on Chancroid and Chancre; Dr. J. A. MacFadyen read a paper on Tuberculosis of the Male Genitalia; Dr. W. D. Bieberbach on Epididymectomy and Dr. O. D. Phelps gave notes from American Urological Convention.

The next regular meeting of the Society will be held at the Central New England Sanatorium in Rutland, Mass., on July 8th, by invitation of Dr. B. T. Crane. The program will be arranged by Dr. Crane with the following papers: "Reminiscences of Student Days in Vienna" by Dr. Vincent Bowditch of Boston, and "Thoracoplasty Treatment for Pulmonary Tuberculosis" by Dr. Wyman Whittemore of Boston. Light refreshments will be served.

I. DRAPER PHELPS, *Secretary*.

\*Notices of meetings must reach the JOURNAL office on the Friday preceding the date of issue in which they are to appear.

#### SOCIETY MEETINGS

##### NEW ENGLAND STATE MEDICAL SOCIETIES

The annual meetings of the New England State Medical Societies are scheduled as follows:  
Vermont State Medical Society—St. Johnsbury, Oct. 15-16, 1925.

#### BOOK REVIEW

**Rheumatic Heart Disease.** By CAREY F. COOMBS, M.D., F.R.C.P. (London.) With an Introduction by F. G. Poynton, M.D., F.R.C.P. (London.) 376 pages, 20 plates with 48 figures New York, William Wood and Company, 1924. Printed in Bristol, England, by John Wright and Sons, Ltd.

After a long experience in the pathological and clinical study of rheumatic heart disease Coombs has written an account of the subject. He has presented a good chapter on the pathological findings, but the chief contribution to the subject made by this writer is found in his clinical experience discussed in the ninth and tenth chapters entitled "Course and Prognosis" and "Treatment" respectively. Some 600 to 700 cases form the basis for the valuable observations in these chapters which can be read with profit by all physicians who come in contact with rheumatic fever, chorea or rheumatic heart disease. There is one table for example (table XIV) which gives the age incidence of deaths from rheumatic heart disease. In two groups—clinical and autopsy, over 1/3 died before they were 21, about 1/4 more between 21 and 31, 1/5 more between 31 and 41,

leaving 1/5 surviving after 40. The average age at death was 28½ years.

The major part of the book, however, does not present anything new or important enough to justify the detail into which the author goes, as, for example, the description of symptoms, signs and instrumental findings so well and often described in the literature in the past. The volume could easily be reduced considerably in size and still contain all the matter of value to pathologist and clinician, including general practitioner.

In the chapter on etiology it will be found that the author subscribes to the theory that the diplococcus rheumaticus of Poynton and Paine is the cause of rheumatism. In the introduction to the book Poynton once again defends his view and its support by Coombs. They both recognize, however, the failure of many of the workers in the field to agree that this diplococcus is the cause. The question is still unsettled.

It is of interest to note that reference is made by Coombs to the progressive campaign of study and prevention of heart disease by organized effort in America.

#### BOOKS RECEIVED FOR REVIEW

- Clinical Therapeutics. Vols. I and II. By Alfred Martinet. Philadelphia: F. A. Davis Co. 718 and 1800 pages. Price, \$8 per volume.
- Clinical Medicine for Nurses. By Paul H. Ringer. Philadelphia: F. A. Davis Co. 306 pages. Price, \$2.50.
- A Laboratory Manual of Physiological Chemistry. By Elbert W. Rockwood and Paul Reed Rockwood. Philadelphia: F. A. Davis Co. 413 pages. Price, \$4.
- Pseudo-Appendicitis. By Thierry De Martel and Edouard Antoine. Philadelphia: F. A. Davis Co. 211 pages. Price, \$3.
- William Crawford Gorgas (His Life and Work). By Marie D. Gorgas and Burton J. Hendrick. Philadelphia: Lea & Febiger. 359 pages. Price, \$5.
- International Clinics. Vol. I. (35th Series, March, 1925.) Philadelphia and London: J. B. Lippincott Co. 301 pages.
- Child Marriages. By Marie C. Richmond and Fred S. Hall. Russell Sage Foundation. Price, \$1.50 net. 159 pages.
- Pictor's Tract on the Treatment of the Renal Calculus. (1557.) By Charles Greene Cumston. Geneva, Switzerland: Albert Kundig. 63 pages. Price, 5/ net.
- From Infancy to Childhood. By Richard M. Smith. Boston: The Atlantic Monthly Press. 105 pages. Price, \$1.25.
- Transactions of the 30th Annual Meeting of the American Laryngological, Rhinological and Otolaryngological Society, Inc. St. Louis, Mo.: Published by the Society. 556 pages.
- Practical Medicine Series. Vol. V. Gynecology and Obstetrics. Chicago: Year Book Publishers. 534 pages. Price, \$2.
- Diseases and Deformities of the Foot. By John Joseph Nutt. New York: E. B. Treat & Co. 309 pages. Price, \$4.
- Pediatrics. Vol. VI. By Isaac A. Abt. Philadelphia and London: W. B. Saunders Co. 736 pages. Price, \$10.
- Recovery Record. By Gerald B. Webb and Charles T. Ryder. New York: Paul B. Hoeber, Inc. 81 pages and charts. Price, \$2.
- Teeth and Jaws. By Herman A. Osgood. New York: Paul B. Hoeber, Inc. 99 pages and LXXII plates. Price, \$10.
- Landmarks and Surface Markings of the Human Body. By L. Bathe Rawling. New York: Paul B. Hoeber, Inc. 97 pages. Price, \$3.
- Laboratory Diagnostic Methods. By John A. Kolmer and Fred Boerner. New York and Boston: D. Appleton & Co. 338 pages.
- Procedures in Nursing. (Part II.) By Annabella McCrae. Boston: M. Barrows & Co. 527 pages. Price, \$1.50.
- Gynecology for Nurses. By M. J. Seiffert. New York and London: D. Appleton & Co. 325 pages.
- Transactions of the American Gynecological Society. Vol. 49, 1924. Philadelphia: William J. Dornan, Printer. 402 pages.
- Life of Sir William Osler. By Harvey Cushing. New York: Oxford University Press. 2 volumes—Vol. I, 685 pages; Vol. II, 728 pages. Price, \$12.50 for the 2 volumes.
- Clinical Features of Heart Disease. By LeRoy Crummer. New York: Paul B. Hoeber, Inc. 353 pages. Price, \$3.
- Medical and Surgical Report of the Roosevelt Hospital. New York. (Second Series, 1925.) New York: Paul B. Hoeber, Inc. 378 pages. Price, \$5.
- Diseases of Children for Nurses. Fifth edition. By Robert S. McCombs. Philadelphia and London: W. B. Saunders Co. 581 pages. Price, \$2.75.
- Personal Hygiene Applied. Second edition. By Jesse Feiring Williams. Philadelphia and London: W. B. Saunders Co. 414 pages. Price, \$2.
- Diet in Health and Disease. Sixth edition. By Julius Friedenwald and John Ruhrah. Philadelphia and London: W. B. Saunders Co. 987 pages. Price, \$8.
- Dyspepsia—Its Varieties and Treatment. Second edition revised. By W. Soltan Fenwick, M.D. Philadelphia and London: W. B. Saunders Co. 515 pages. Price, \$6.
- The Surgical Clinics of North America. New York Number—February, 1925. Vol. V, No. 1 (issued monthly). Philadelphia and London: W. B. Saunders Co. 294 pages. Price per clinic year: Paper, \$12; cloth, \$16 net.
- Infections of the Hand. By Allen B. Kanavel. Philadelphia and New York: Lea & Febiger. 499 pages. Price, \$5.50.
- The Morality of Birth Control. By Ettie A. Rout. London: John Lane—The Bodley Head—Ltd. 224 pages. Price, 5 shillings net.
- Industrial Poisons in the United States. By Alice Hamilton. New York: The Macmillan Co. 590 pages. Price, \$5.
- Bulletin No. XI of the International Association of Medical Museums and Journal of Technical Methods. New York: Paul B. Hoeber. 151 pages. Price, \$3.
- Medicaments et Medicaments Cardiaques. H. Vaquez. Paris: Librairie J. B. Bailliere et Fils. 302 pages.
- Simplified Nursing. By Florence Dakin. Philadelphia, London and Montreal. J. B. Lippincott Co. 497 pages.
- The International Medical Annual. 43rd year, 1925. New York: William Wood & Co. 548 pages. Price, \$6.
- Mortality Statistics. 23rd Annual Report. (Dept. of Commerce.) Washington: Government Printing Office. 656 pages. Price, \$1.90.
- Anaphylaxis and Sensitisation. By R. Cranston Low. New York: William Wood & Co. 384 pages. Price, \$6.50.
- Physical Diagnosis of Diseases of the Chest. By Joseph H. Pratt and George E. Bushnell. Philadelphia and London: W. B. Saunders Co. 522 pages. Price, \$5.